R E P O R T R E S U M E S

ED 020 599 EC 001 529

A STUDY OF THE EFFECTS OF TWO EXPERIMENTAL CURRICULUM UNITS ON THE SOCIAL PERCEPTION AND OCCUPATIONAL READINESS OF EDUCABLE MENTALLY RETARDED ADOLESCENTS.

BY- CLARK, GARY M.
GEORGE PEABODY COLL. FOR TEACHERS, NASHVILLE, TENN.

REPORT NUMBER BR-6-8926 PUB DATE AUG 67
GRANT OEG-2-7-068926-2370
EDRS PRICE MF-$0.75 HC-$5.24 129P.

DESCRIPTORS- *EXCEPTIONAL CHILD RESEARCH, *MENTALLY HANDICAPPED, *PERCEPTION, *BEHAVIOR, *CURRICULUM, ADJUSTMENT (TO ENVIRONMENT), EDUCABLE MENTALLY HANDICAPPED, ADOLESCENTS, EXPERIMENTAL CURRICULUM, INTERPERSONAL COMPETENCE, CURRICULUM EVALUATION, PREVOCATIONAL EDUCATION, BEHAVIOR CHANGE, PERSONALITY, BEHAVIOR RATING SCALES, TEST RESULTS, SOCIAL MATURITY, VISUAL PERCEPTION, SELF CONCEPT, SEX DIFFERENCES, SOCIAL RELATIONS, SOCIAL ADJUSTMENT,

THE MAJOR PURPOSE OF THE STUDY WAS A TRIAL AND EVALUATION OF AN EXPERIMENTAL CURRICULUM UNIT DESIGNED TO PROVIDE A STRUCTURAL PROGRAM IN SOCIAL PERCEPTION AND BEHAVIOR FOR EDUCABLE MENTALLY RETARDED ADOLESCENTS. THE PROGRAM WAS DEVISED IN THE FORM OF SEQUENTIAL SIMULATION OR ILLUSTRATIONS LEADING TO SKILLS IN PERCEIVING WHICH CUES ARE RELEVANT, INFERRING FROM THESE WHAT IS OCCURRING, AND DETERMINING WHAT SOCIAL RESPONSES WOULD BE MOST APPROPRIATE. THE 56 SUBJECTS WERE SELECTED FROM YOUNG ADOLESCENTS (AGED 13 TO 16) ENROLLED IN SIX SPECIAL CLASSES FROM THREE SCHOOLS AND WERE RANDOMLY ASSIGNED EITHER TO AN EXPERIMENTAL OR TO A PLACEBO GROUP. THE EXPERIMENTAL GROUP'S TREATMENT CONSISTED OF 48 1-HOUR LESSONS FROM THE EXPERIMENTAL CURRICULUM (PERCEPTUAL TRAINING FOR COMMUNITY LIVING--A PREVOCATIONAL UNIT FOR RETARDED YOUTHS, THE 1965 REVISION BY EDMONDSON, LEACH, AND LELAND). THE CONTROL GROUP FOLLOWED A CONVENTIONAL SPECIAL EDUCATION CURRICULUM WITH SELECTED ELEMENTS OF THE ENVIRONMENT MANIPULATED. PRETEST AND POSTTEST MEASURES WERE TAKEN ON THE FOLLOWING INSTRUMENTS--VINELAND SOCIAL MATURITY SCALE, FUDELL TEST OF OCCUPATIONAL READINESS, TEST OF SOCIAL INFERENCE, BOWN SELF-REPORT INVENTORY, AND BEHAVIOR RATING SCALE. RESULTS WERE ALSO OBTAINED ON TEACHER AND PUPIL EVALUATIONS, AND WEEKLY UNIT TESTS. THE EXPERIMENTAL VARIABLES OF CURRICULA, SCHOOLS, AND TIME WERE ANALYZED IN TERMS OF THE DEPENDENT VARIABLES (MEASURES OF SOCIAL BEHAVIOR). ANALYSIS INDICATED NO SIGNIFICANT DIFFERENCES BETWEEN THE EXPERIMENTAL AND THE PLACEBO GROUPS FOLLOWING THE TREATMENT PERIOD. IT WAS FOUND, HOWEVER, THAT FEMALE PUPILS PERFORMED SIGNIFICANTLY BETTER (BEYOND .025 LEVEL) THAN MALE PUPILS ON FOUR OF THE SEVEN MEASURES. THE RELATIONSHIP BETWEEN ACHIEVEMENT ON WEEKLY UNIT TESTS AND SCORES ON TWO POSTTEST MEASURES WAS SIGNIFICANT BEYOND THE .05 LEVEL. TEACHER AND PUPIL EVALUATIONS INDICATED GENERAL APPROVAL. ONE FIGURE AND 24 TABLES PROVIDE DATA, AND A BIBLIOGRAPHY LISTS 98 ITEMS. APPENDIXES INCLUDE MATERIAL ON THE TESTS AND RATING FORMS, LESSON PLANS AND GUIDELINES, TEACHER PERSONNEL DATA, IDENIFYING DATA AND SCORES ON ALL SUBJECTS, TEACHER EVALUATION OF THE SOCIAL PERCEPTUAL TRAINING UNIT, AND ANALYSIS OF VARIANCE AND COVARIANCE SUMMARY TABLES. (TH)

p. 38 missing, 32 duplicate

CRIC

Received by RAAS
Reports Unit

ED020599

329

FINAL REPORT

BR ~~Project~~ No. 6-8926
Grant No. OEG-2-7-068926-2370

PA-40

A STUDY OF THE EFFECTS OF TWO EXPERIMENTAL CURRICULUM UNITS ON THE SOCIAL PERCEPTION AND OCCUPATIONAL READINESS OF EDUCABLE MENTALLY RETARDED ADOLESCENTS

August 1967

EC 001

U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

Office of Education
Bureau of Research

ILMED FROM BEST
VAILABLE COPY

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

A STUDY OF THE EFFECTS OF TWO EXPERIMENTAL CURRICULUM UNITS ON THE SOCIAL PERCEPTION AND OCCUPATIONAL READINESS OF EDUCABLE MENTALLY RETARDED ADOLESCENTS

Project No. 6-8926
Grant No. OEG-2-7-068926-2370

Gary M. Clark

August 1967

The research reported herein was performed pursuant to a grant with the Office of Education, U. S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

George Peabody College for Teachers

Nashville, Tennessee

ACKNOWLEDGMENTS

A doctoral dissertation is rarely the product of one person. This one is no exception. Sincere gratitude is expressed for the direction and encouragement of Dr. Samuel C. Ashcroft, Major Professor. Special appreciation is also expressed to the other members of the doctoral committee, each of whom contributed his own guidance and professional advice.

This particular investigation would not have been possible without the cooperation and permission of the authors of the experimental curriculum unit entitled Perceptual Training for Community Living: A Pre-Vocational Unit for Retarded Youth. The writer is indebted to Mrs. Barbara Edmonson, Dr. Ethel Leach, and Dr. Henry Leland for their willingness to loan their curriculum materials. Special appreciation is extended to Mrs. Barbara Edmonson of the Children's Rehabilitation Unit, University of Kansas, for her continuous encouragement and helpful consultation.

The writer gratefully acknowledges the cooperation and efforts of the participating teachers of the Nashville-Davidson County Metropolitan Public Schools. Appreciation is extended to Mr. W. K. Wright, Director of Pupil Personnel Services, and Mrs. Rebecca Rogers, Supervisor of Secondary Special Education.

The writer is also indebted to Dr. Raymond C. Norris, Dr. Horace Norton, Dr. John Paraskevopoulus, Mr. Tom McGuire, and the computer program consultants of the Statistical Services Unit Research of the University of Illinois for their advice and assistance in the statistical design and electronic data processing procedures for this study.

This research was supported by a grant from the U.S. Office of Education, Handicapped Children's Branch, under the designation of Project No. 6-8926. Support for the writer during his entire doctoral program was through the fellowship program of P.L. 85-926 as amended.

Finally, a very special measure of gratitude and affection is extended by the writer to his wife, Jeannie, whose constant cooperation and encouragement were greatly needed and appreciated.

TABLE OF CONTENTS

CHAPTER		PAGE
ACKNOWLEDGMENTS		ii
TABLE OF CONTENTS		iii
LIST OF TABLES		v
FIGURE		vii
I.	INTRODUCTION	1
	Problem	1
	Purpose of the Study	2
	Review of Related Theory and Research	2
	Information and Communication Theory	3
	Sociology	3
	Personality Theory	4
	Social Psychology	5
	Psychometrics	7
	Summary	8
	Review of Related Theory and Research With Implications for Education	9
	Derivation of Hypotheses	10
	Summary	14
II.	METHOD	15
	Subjects	15
	Instruments	15
	Vineland Social Maturity Scale	16
	Test of Social Inference	17
	Behavior Rating Scale	17
	Bown Self-Report Inventory	18
	Fudell Test of Occupational Readiness	18
	Treatment	19
	Procedures	19
	Testing Procedures	20
	Treatment Procedures	21
	Analysis of Data	22
	Summary	23

TABLE OF CONTENTS (continued)

CHAPTER		PAGE
III.	RESULTS	25
	Summary	34
IV.	DISCUSSION	38
	Discussion of Results	38
	Results on Experimental Variables	38
	Correlation Results	40
	Teacher Evaluations	41
	Pupil Evaluations	41
	Conclusions	42
	Implications	42
	Implications for Education	42
	Implications for Research	43
	Summary	43
V.	SUMMARY	45
REFERENCES		48
APPENDIXES		57
A	SAMPLE TEST ITEMS, TEST FORMS, AND RATING FORMS	58
B	SAMPLE LESSON PLANS AND GUIDELINES FOR TREATMENT GROUPS	77
C	TEACHER PERSONNEL DATA	89
D	IDENTIFYING DATA AND SCORES ON ALL SUBJECTS	92
E	EVALUATION DATA BY TEACHERS OF SOCIAL PERCEPTUAL TRAINING UNIT	102
F	ANALYSIS OF VARIANCE SUMMARY TABLES FOR ADJUSTED SCORES	107
G	ANALYSIS OF COVARIANCE SUMMARY TABLES	115

LIST OF TABLES

TABLE		PAGE
1.	Analysis of Variance of Scores on the Vineland Social Maturity Scale	26
2.	Analysis of Variance of Scores on the Fudell Test of Occupational Readiness	27
3.	Analysis of Variance of Scores on the Test of Social Inference	28
4.	Analysis of Variance of Scores on the Errors Made on the Test of Social Inference	29
5.	Analysis of Variance of Scores on the Bown Self-Report Inventory	30
6.	Analysis of Variance of Ratings on the Behavior Rating Scale by Outside Observers . .	31
7.	Analysis of Variance of Ratings on the Behavior Rating Scale by Teachers	32
8.	Correlation Matrix of Post-Test Measures	35
9.	Average Daily Evaluations of Social Perception Curriculum by Teachers	36
10.	Pupil Evaluations of Weekly Units by Social Perception Curriculum	36
11.	Analysis of Variance of Scores on the Vineland Social Maturity Scale After Adjustment for Age, I.Q., and Sex	108
12.	Analysis of Variance of Scores on the Fudell Test of Occupational Readiness After Adjustment for Age, I.Q., and Sex	109
13.	Analysis of Variance of Scores on the Test of Social Inference After Adjustment for Age, I.Q., and Sex	110
14.	Analysis of Variance of Scores on the Error Score of the Test of Social Inference After Adjustment for Age, I.Q., and Sex	111

LIST OF TABLES (continued)

TABLE		PAGE
15.	Analysis of Variance of Scores on the Bown Self-Report Inventory After Adjustment for Age, I.Q., and Sex	112
16.	Analysis of Variance of Rating Scores on the Outside Observer Behavior Rating After Adjustment for Age, I.Q., and Sex	113
17.	Analysis of Variance of Rating Scores on the Teacher Behavior Rating After Adjustment for Age, I.Q., and Sex	114
18.	Analysis of Covariance of Sex Effects on the Vineland Social Maturity Scale After Scores Were Adjusted for Age and I.Q.	116
19.	Analysis of Covariance of Sex Effects on the Fudell Test of Occupational Readiness After Scores Were Adjusted for Age and I.Q.	117
20.	Analysis of Covariance of Sex Effects on the Test of Social Inference After Scores Were Adjusted for Age and I.Q.	118
21.	Analysis of Covariance of Sex Effects on the Test of Social Inference Error Scores After Scores Were Adjusted for Age and I.Q.	119
22.	Analysis of Covariance of Sex Effects on the Bown Self-Report Inventory After Scores Were Adjusted for Age and I.Q.	120
23.	Analysis of Covariance of Sex Effects on the Behavior Rating by Outside Observers After Ratings Were Adjusted for Age and I.Q.	121
24.	Analysis of Covariance of Sex Effects on the Behavior Rating by Teachers After Ratings Were Adjusted for Age and I.Q.	122

FIGURE

FIGURE		PAGE
1.	Statistical Design	22

CHAPTER I

INTRODUCTION

Deficits in social behavior of the mentally retarded are frequently cited as factors contributing to failure in post-school adjustment (Baller, 1936; Cohen, 1960; Collman & Newlyn, 1957; Lee, 1959; Peterson & Smith, 1960; Peckham, 1951; Saenger, 1960). Social deficits are usually defined in descriptive terms such as "inability to get along with employers and/or fellow workers," "difficulty with the law," "financial problems," "lack of dependability," "family conflicts," or other specific personal-social terms designating some inadequacy.

Problem

In spite of an awareness of these types of particular behavior deficits, the definition or identification of basic intellectual or personality inadequacies which underlie these social behaviors have not been the major emphasis of research in the field of mental retardation. This lack of emphasis is especially apparent in the research on education and training of persons who are retarded (Edmonson, 1966). If children and young adults are ever to develop permanent and generalizable skills in the area of social behavior, training must be conceptualized around basic deficiencies as well as specific problems in social behavior.

The field of mental retardation has depended heavily upon the theory and research which are available in many disciplines. For example, much of the knowledge which has been generated in the areas of learning, visual perception, psychomotor performance, and personality has been found applicable to retarded persons. The evidence mounts that differences between persons with average or above intelligence and persons who are retarded are more quantitative than qualitative. Such evidence encourages further application of theory and research from other disciplines to the problem of social deficits.

Disciplines such as information or communication theory, personality theory, social psychology, psychometrics, and sociology have contributed to the literature on the identification and definition of certain factors associated with social behavior. Generally, these disciplines support the position that social deficits can be explained in part as failure to recognize and interpret cues for expected or tolerated actions

within social situations, and in part as failure to acquire a behavioral repertoire which is adequate for social situations (Edmonson, deJung, & Leland, 1965). This agreement gives some perspective to the problem of education and training for social behavior and opens new possibilities for applied research in curriculum development for the education of retarded persons.

Purpose of the Study

Authorities and curriculum guides have long proposed the inclusion of training for social adequacy in curricula for retarded children (Kirk & Johnson, 1953; Goldstein & Siegel, 1957; Ingram, 1954; & others). One problem has been a lack of materials and techniques which would accomplish this objective most efficiently. New curriculum materials are beginning to appear in print but many are without research justification. McCarthy (1966) has made a forceful plea for careful trial and evaluation of new educational materials. In response to the present situation regarding the need for effective curriculum materials, the present study has as one of its major purposes a trial and evaluation of an experimental unit of perceptual training for social behavior by Edmonson, Leach, and Leland (1965) entitled Perceptual Training for Community Living: A Pre-Vocational Unit for Mentally Retarded Youth.[1] Other purposes of the study were to gain information from teachers and pupils and to introduce weekly tests which might aid in improvement and revision of the unit.

Review of Related Theory and Research

This section will summarize contributions which have been made by various disciplines in the area of social behavior. Each has approached the study of the problem from a different point of view and uses different terminology to describe behavior it has observed. The summary of related theory and research discusses how concepts in social behavior remain essentially the same, in spite of divergent orientations and methods of study.

---

1. A study in progress which is supported by the U.S. Vocational Rehabilitation Administration Research and Demonstration Grant 1388-P and, the Children's Rehabilitation Unit of the University of Kansas Medical Center.

Information and Communication Theory

Theorists in the area of information and/or communication have viewed the problem of social deficit as a basic inadequacy in the evaluation of incoming perceptual signals (Dember, 1960; Osgood, 1964; Ruesch & Kees, 1956). A social environment is seen to be replete with cues, primarily auditory and visual, which require each participant to be alert to and selective of all relevant stimuli. As the young child develops he is provided cues for communication. Smiles, chuckles, frowns, and volume and inflection of speech are some of the earliest cues encountered. Soon codes for communication are taught through the naming of objects and definitions of words. As vocabulary skills increase, the child gradually begins to acquire added information to such cues as smiles and frowns by relating them to words and their variations of volume, pitch, emphasis, and rhythm. Levy, Orr, and Rosenzweig (1960) have found that even in the subleties of facial expression children learn to perceive and comprehend certain variations. Bram (1955) held that most children become aware of the patterned character of human behavior some time before they have reached the age of four. They discover social roles and play at being mother, doctor, policeman, or even animals or inanimate objects. They develop strong opinions regarding appropriate behavior in certain roles and begin to show a sensitivity to the appropriateness of clothes and gestures.

The implications of this group's approach to understanding the basis for social deficits are clear. Any break-down in the perception and evaluation of social cues will lead to inappropriate social behavior. The perception and interpretation of social behavior begins early and any interruption in this sequential learning process will result in accumulating deficits.

Sociology

There was an interest in social deficits by sociologists soon after the turn of this century. Writers such as Angell (1908), Cooley (1912, 1926), and Mead (1934) saw the importance of interaction within a social environment for the behavior of an individual. Sociological studies within group settings and communities have revealed some normative aspects of social behavior as well as a wide variety of action patterns implicit in such environments (Barker & Wright, 1955; Goffman, 1961, 1963). The study by Barker and Wright in Midwest City indicated that on an average day a

school age youngster might be confronted with as many as 205 different situations, each of which calls for different action patterns, and that on the average he would participate in about 12 of them. The community-accepted responses for these situations were found to be perpetuated informally. Goffman (1961, 1963) stated that action patterns are implicit in any occasion or confrontation of social cues. Depending upon its purpose--recreational, inspirational, occupational, or patriotic--an occasion has its implicit sequence of a beginning, middle, and end, and accompanying negative social sanctions for inappropriate or improper response.

The sociological view of social behavior and social deficits emphasizes the interpretation of social cues within the environment which leads to appropriate or inappropriate behavior. It implies a learning process which is perpetuated informally, primarily through observation and model imitation. Any difficulty in observation, interprstation, or response to the social environment is considered to be the basis for a social behavior deficit.

Personality Theory

Personality theorists have recognized the impact of social interaction upon behavior and have emphasized the importance of one's perception of other persons' feelings toward him and the incorporation of these feelings into one's own self-image (Freud, 1938; McDougall, 1908; Sullivan, 1947). The concept most often referred to by personality theorists was empathy or social insight. Most have agreed that empathy is essential for socialization and affects personal behavior (Baker, 1954; Cottrell & Dymond, 1949; Dymond, 1953; Gage & Suci, 1951).

Another concern of personality theorists has been role theory (Dubois, 1941; Cameron, 1947; Cameron & Magaret, 1951; Jones & Thibaut, 1958; Mead, 1934; Moreno, 1946; Sarbin, 1950, 1954). Roles have been seen to be patterned sequences of learned actions or behaviors in an interaction situation. All societies consist of organized positions and the persons who occupy these positions enact specialized roles or actions. The importance of role perception in this process is emphasized by this group of personality theorists. Role perception has been defined as an organized response of a person to stimuli in a social context. The organized response is seen to be a sequence of behaviors in which the perceptual response is the first part of a social act. The second part is the motor response, or role performance, in which the person

performs actions appropriate to his perception of the positions of self and others. Sarbin (1954) stated:

> If a person's locating of the position of the other is invalid, then his location of the position of self is likely to be invalid. His role enactment, then, will be inappropriate and non-adaptive (p. 230).

In summary, those concerned with role theory and empathy theorize that a person is characterized by an internal organization of qualities or dispositions which are formed by his experiences as a participant in the roles of a given culture or interperson environment. Failure to perceive, interpret, or enact the roles within an environment results in non-adaptive social behavior.

Social Psychology

A closely related line of reasoning has developed concomitantly with the study of empathy and role perception. Social psychologists have emphasized interperson perception and inference as basic to the ability to understand or judge another person. The basic concepts of this approach had their origin in the theories of intuition and inference of Klages (1929) and the phenomenological analyses of social perception by Lipps (1909), Scheler (1926), and Kohler (1947). To describe certain aspects of the processes through which a person becomes aware of the thoughts, feelings, and motives of another, these writers usually used the term Einfulung, which was translated as empathy, the same term used by Freud (1938), McDougall (1908), and Sullivan (1947).

It was natural for the closely related endeavors of some of the personality theorists and social psychologists to converge. This was evident in the work of Cottrell (1942, 1950), Dymond (1948, 1949, 1950), Bender and Hastorf (1950), Blake and Ramsey (1951), Tagiuri and Petrullo (1958) and others. It was in the 1950's that theoretical concepts were combined with the empiricist's interest in measurement and the concept of empathy or social insight became of central interest in research on social relations. Cottrell (1950) asserted that empathic ability was a basic factor "in such phenomena as the development of a conception of self, in acquiring a role, in the emergence of insight, in communication, in the integration of a group, in the internalization of social norms" (p. 706). Dymond (1949) proposed that empathic ability be analyzed to shed light on such questions

as "how the self emerges and the child becomes socialized, how individual behavior can be predicted more efficiently, the reason groups become or fail to become integrated" (pp. 11-12). Bender and Hastorf (1950) held that the "ability to judge people" represents an important social talent and stated:

> In everyday situations, we depend necessarily on our capacity to perceive and predict the behavior, thoughts, and feelings of the other person. . . . Our socialization is reared on this foundation of perception of persons in terms of prediction (p. 556).

Blake and Ramsey (1951) viewed perception, in spite of its relativity and variance between individuals, as the basis for action by providing a person with the immediate as well as the ultimate foundation for experience. They stated:

> The adequacy of an individual's adjustment is dependent upon the accuracy, conformity, or tolerability of his inferences about the meaning of the sensory information to which he is exposed, modified of course by the latitude of interpretive error permitted by his cultural group (pp. 6-7).

Tagiuri and Petrullo (1958) agreed that the relative smoothness of operation in day-to-day living reflects the fact that one person is in some degree aware of what another person does, feels, wants, and expects to do. Similar views and statements have been made by Bruner (1951, 1957, 1964), Bruner and Postman (1948), Bruner, Shapiro, and Tagiuri (1958), Cameron (1951), Matkom (1963), Steiner (1955), Weinberg (1952), and others.

Cameron (1951) summed up the general view of personality theorists and researchers in social psychology in his statement:

> To attain to adulthood means only to reach a level of maximal growth and physiological adequacy. It means that one is biosocially capable of taking a variety of culturally structured roles from which he has previously been barred. For the maintenance of adult socialization the most essential condition, of course, is that the individual participate wholeheartedly in the activities of everyday living. This

> must involve perceptual organization that includes genuine communication, the social modification of one's individualistic interpretations, and a free interchange of perspective with others. . . . The maintenance of such interpersonal behavior is the price everyone must pay for the preservation of social validity in the face of environmental organization that rarely, if ever, is completely structured (p. 291).

Psychometrics

There have been some individuals in the area of psychometrics who have been concerned with social intelligence and measurement of various abilities which appeared to be involved in social behavior. Thorndike (1920) first used the term "social intelligence" as a descriptive term for the phenomenon of understanding other people. Other labels have included "social sensitivity," "person cognition," and "interpersonal perception." Most of the research on the ability to judge people has been experimentally oriented. Methods have varied from the rating or ranking of the personality traits of peers or other persons (Gates, 1923; Guilford, 1929; Kanner, 1930; Vernon, 1933; Wolf & Murray, 1937; Norman, 1953; Taft, 1950) to predictions of others' behavior (Gage, 1952; Cline & Richards, 1960).

It was through this group of research studies that the concept of social insight or empathy emerged as a factor of intelligence. Many of these research studies were also concerned with the determination of generality or specificity of social intelligence. G. W. Allport (1937) was one of the early exponents of a general ability and stated at that time:

> . . . Understanding people is largely a matter of perceiving relations between past and present activities, between expressive behavior and inner traits, between cause and effect, and intelligence is the ability to perceive just such relations as these (p. 514).

Cline and Richards (1960) held that there is a generalized ability to judge others through interpersonal perception but that this ability consists of at least two relatively independent components, "interpersonal sensitivity" and "stereotype accuracy." In contrast to these views, other studies have revealed specific abilities in social intelligence rather than a general ability (Hunt, 1928; Moss, 1929; Moss, Hunt, Omwake, & Ronnig, 1927; Wedeck, 1947; Wolin, 1955).

These contradictory opinions parallel the disputes over multiple factors in general intelligence.

O'Sullivan, Guilford, and deMille (1965) have proposed a new approach to the study of social intelligence. They have advocated research based upon individual differences in social intelligence rather than a continuation of observing similarities in groups. As a result of their assumptions, they predicted the existence of 30 different social (or behavioral) intelligence factors. Six of these factors were concerned with behavioral cognition, or the abilities involved in understanding the thoughts, feelings, and intentions of others. Twenty-three experimental tests were constructed, administered, and factor analyzed. All six behavioral-cognition factors emerged among the 33 principal factors extracted. These included (a) ability to understand units of expression, such as facial expressions; (b) ability to cognize that different modes of expression (gestures, body postures, and facial expression) have the same dispositional meaning; (c) understanding of diadic relationships; (d) ability to comprehend a social situation or sequence of events; (e) ability to reinterpret either a gesture, a facial expression, a statement, or a whole situation.

The psychometric approach has isolated various factors which are associated with social competencies. The failure to achieve certain social skills is now attributed to basic social intelligence operations which are separate but identifiable factors in the structure of intelligence.

Summary

The literature reviewed above dealt with human behavior without any limitations regarding ability levels or classifications of intelligence. There was the implicit view that human social behavior may be studied on a continuum. There was an explicit agreement that social deficits occur more frequently when basic perception and response patterns are inadequate and less frequently when the ability to perceive roles, empathize, and maintain social insight are intact. With little collaboration or coordination of research efforts among disciplines, there has been a striking consistency in the theoretical and empirical efforts in the area of social behavior.

Review of Related Theory and Research with Implications for Education

Generalizing the findings of related research to social behavior of the mentally retarded person is not an illogical leap. Pilkey, Goldman, and Kleinman (1961) have made just such a generalization in this statement:

> The mentally subnormal child appears to have more difficulty in perceiving social situations than the brighter child. Often he fails to distinguish between appropriate and non-appropriate behavior or to identify various social cues (p. 595).

Hutt and Gibby (1958) contended that this is especially evident for the retarded individual during adolescence.

Research which has been made available has provided some direction for educating and training persons who are retarded. For example, Benoit (1955) held that play activities for the mentally retarded offer needed stimulation for social development while they are young. He asserted that it is primarily through play that they learn the skills that lie at the root of living. Pilkey, Goldman, and Kleinman (1961) have found some support for the view that empathic ability and self-assessment of the retarded adolescent can be improved through psychodrama training methods. Gibson (1953) and Solley and Murphy (1960) have held that inadequacies in social interaction commonly attributed to the retarded result from lack of appropriate discriminatory and inferential responses to social cues and that remediation should be approached in terms of perceptual learning theory.

The question arises at this point, "Can perceptual processes be taught and, if so, what would be the best approach?" Again, the field of mental retardation can turn to other disciplines which have been concerned with this same question. Hilgard (1951) saw perception as learned behavior. He held that perceptual learning occurs as part of the larger background of learning to satisfy needs and becomes important in keeping the world of space stable and in achieving immediate clarity and definiteness in perceiving or apprehending cues.

Sarbin (1954) stated that action patterns and role behaviors are learned through two broadly defined processes, intentional instruction and incidental learning. Both may operate simultaneously and any set of role expectations is probably a mixture of expectations acquired through intentional instruction and incidental learning. Bram (1955)

differentiated between socialization and enculturation in describing how social behaviors are learned. He maintained that in the process of socialization the child has more opportunity for making personal discoveries; for example, if you hit someone you are likely to get hit back; flattering a person has a mollifying effect on him. On the other hand, in enculturation the stress is more on learning by being taught or by imitation: for example, it is not likely a person will "discover" how to travel on a city bus, make buttonholes, or dance the polka. All these things must be taught by those who already know them, either directly or by providing models for imitation.

In our culture it is somewhat unusual for a child who is retarded to receive extensive formal instruction in interpreting social situations. This is surprising in view of the nature and composition of populations classified as mentally retarded. Tarjan (1962) stated that epidemiologic studies indicated that in 85 per cent of retarded children, the primary etiology of the retardation was related to psychological, social, and/or cultural factors. The deprivation in which most retarded persons live is the antithesis of what is needed in providing appropriate social learning experiences for most of our society's norms. It can be assumed that with the increasing complexity of our social milieu, retarded persons will be bombarded with more stimuli than they can effectively handle and will need some formal or intentional instruction in social behavior. The implications of the related research reviewed above can provide a basis for the development of methods and techniques which can provide the perceptual training and social development needed by retarded persons.

Derivation of Hypotheses

Edmonson, Leach, and Leland (1965) have developed and are investigating an experimental curriculum unit designed to provide a structured program in social perception and behavior. It was devised in the form of sequential simulations or illustrations of social situations leading to skills in perceiving which cues are relevant, inferring from these what is occurring, and determining what and why certain social responses would be most appropriate. In their initial experimental trial with the program, four groups of retarded youth (N = 54, CA 14-3 to 17-0) attending junior high school classes for educable mentally retarded pupils (mean IQ, 66) were assigned randomly to two experimental groups. One matched group receiving no

treatment was established in a separate school district. The experimental group made daily use of social cue instruction materials for eight weeks. The placebo group had its curriculum enriched by the addition of good quality commercial film strips and movies of traditional type on personal appearance, health and hygiene, and transportation. The third group had no modification of its regular program. All groups were pre- and post-tested by the Test of Social Inference (Edmonson, de Jung, & Leach, 1967).

Another trial with this unit on a population of institutionalized subjects constituted the second experimental trial by its authors. Two groups of retardates (N = 38, mean CA 15-7 to 18-7) were randomly assigned to Experimental I and Experimental II groups. Group I made daily use of the social cue instructional materials for 11 weeks. Group II made daily use of an occupational skills instructional curriculum (Fudell, 1963). Pre- and post-tests were made with the Test of Social Inference and Behavior Rating Scale, and then the groups switched curricula for the next 11 weeks. At the termination of the second treatment period the subjects were retested on the same instruments. The data were analyzed to determine effects of curricula, sex, and order of treatment. The investigators concluded that the social perceptual curriculum was associated with gains on the Test of Social Inference greater than those accompanying use of the competing curriculum. Pupil sex alone did not make any significant differences in the gain scores on the measuring instruments. Boys did make significantly greater gains on the social perceptual curriculum than did girls on the same unit or boys or girls on the occupational unit. The order in which the curricula were presented did not in itself have any effect; the interaction of order and curricula, however, was significant. Analysis of the interaction revealed that the initial presentation of both curricula was associated with significant gain, but significance at a more stringent level was reached with the initial presentation of the social perceptual curriculum (Children's Rehabilitation Unit, 1966).

A third trial with the experimental unit was with one teacher in an institutional setting who used the occupational education unit (Fudell, 1963) with one class in the morning and the social perceptual curriculum with a second class in the afternoon. Pupils and curricula were randomly assigned. The mean chronological age was 189 months and mean IQ was 62. Pre- and post-tests were administered. The data revealed again a significant sex x treatment interaction effect. Gains on the Test of Social Inference by boys were significantly greater than by girls from the social perceptual unit and for

boys or girls in the occupational education unit (Children's Rehabilitation Unit, 1966).

These three trials of the unit by its authors have generated some enthusiasm for this particular curriculum unit. The results thus far indicate a social cue instructional approach has some merit, as measured by an experimental test of social inference and behavior rating scale. Based upon the evidence from research related to the present study, there is reason to conclude that: (a) perceptual training for social behavior can be programmed into a curriculum unit, (b) special tests on social perception and inference are sensitive to relatively short-term instructional periods, and (c) boys seem to gain more from social perception training than girls. Previous research has not established the efficacy of social perceptual training as measured by a variety of measures of social behavior, the effect of school bias in sampling on the efficacy of social perceptual training, the effect of social perceptual training on younger special education retardates, or the influence of the "Hawthorne effect" under the conditions just cited. With this lack of research evidence as a basis for research planning, a set of working hypotheses was formulated. The following hypotheses were established.

Hypothesis 1. Performance from pre-test to post-test on measures of social behavior will not differ significantly as a function of curricula. The design of the study permitted this hypothesis to be tested by a comparison of two curriculum treatments. Measures of social behavior in addition to those used in previous studies were included to permit a study of the curricula by a variety of measures. Young adolescent retardates in public school special classes were selected for the population on which this hypothesis was to be tested. The placebo curriculum was designed to study the influence of the Hawthorne effect on this population.

Hypothesis 2. Performance from pre-test to post-test on measures of social behavior will not differ significantly as a function of school sampling. The design of the study permitted three schools and six teachers to be included. This aspect of the design not only provided more schools and increased the degrees of freedom, but also provided a comparison between schools for more precise study of the teacher variable.

Hypothesis 3. Performance from pre-test to post-test on measures of social behavior will not differ significantly as a function of time. This hypothesis was designed to provide

the time element essential for treatment effect to be measured. This aspect of the design permitted each subject to be measured against his own base line following the curriculum treatment, and serve as his own control subject.

Hypothesis 4. Performance on measures of social behavior will not differ significantly as a function of the interaction between curricula and school. A test of this hypothesis is a prerequisite for determining differences between schools on the respective curriculum treatments.

Hypothesis 5. Performance from pre-test to post-test on measures of social behavior will not differ significantly as a function of the interaction between curricula and time. A test of this hypothesis is a prerequisite for determining differences between curricula at each time of measurement.

Hypothesis 6. Performance from pre-test to post-test on measures of social behavior will not differ significantly as a function of the interaction between school and time. A test of the hypothesis is a prerequisite for determining differences between schools at each time of measurement.

Hypothesis 7. Performance from pre-test to post-test on measures of social behavior will not differ significantly as a function of the interaction between curricula, school, and time. A test of this hypothesis is necessary to determine whether all of the preceding hypotheses can be tested.

Hypothesis 8. Correlations between achievement on weekly unit tests on the social perceptual training unit and scores on all post-test measures will not differ significantly from chance. This hypothesis was formulated to study the relationship of content achievement of the social perceptual curriculum with the dependent variables concerned with social behavior in general.

Additional information for future revisions and improvements of the social perceptual training unit was sought by studying the following:

1. Evaluations by teachers of the daily units in the experimental unit on perceptual training for social behavior

2. Evaluations by pupils of the daily units in the experimental unit on perceptual training of social behavior.

Summary

Social deficits are recognized as being the primary problem of adult adjustment of persons who are retarded. These deficits are generally discussed in descriptive terms giving specific social inadequacies. Education and training of retarded persons have been organized primarily around the prevention and amelioration of particular social deficits with little attention to the basic factors which produce those deficits. Various disciplines in the behavioral sciences have given some perspective to the problem of identifying underlying factors of social behavior and have provided implications for the education and training of retarded persons.

Recent development and trial of a curriculum unit conceptualizing the basic factors of social perception and providing opportunities for developing social behavior repertoires have indicated the possibilities of applying theory and research findings to educational curricula. It was the purpose of this study to evaluate a social perceptual curriculum unit with young special education retardates in several schools with a variety of measures of social behavior. A set of working hypotheses was established to study those aspects of the social perceptual training unit which had not been clarified by previous research.

CHAPTER II

METHOD

In this chapter, information concerning the identification and selection of subjects, choice and description of measuring instruments, and procedures in data collection and treatment are presented. The chapter is concluded with a discussion of the analyses of data.

Subjects

Experimental subjects were selected from young adolescents enrolled in six special classes from three schools in the Nashville-Davidson County Metropolitan Public Schools. Youths were included only if their scores on individually administered tests of intelligence (Revised Stanford-Binet or Wechsler Intelligence Scale for Children) were between 50 and 80 and their chronological ages between 12-0 and 16-0. Subjects from intact classes within each of three schools were randomly assigned to an experimental or placebo group. Seventy-eight pupils were initially assigned but due to attrition or failure to meet criteria for inclusion only 56 were included in the final sample.

The three schools were in below-average socio-economic neighborhoods of Metropolitan Nashville, but there was a range of socio-economic levels represented within each of the classes. Included in the sample were Negro and Caucasian subjects. One of the schools contributed all but one of the 12 Negro subjects in the study. No predominant ethnic groups were observed in the three schools.

The ratio of male to female pupils was typical of special classes for the educable mentally retarded, with males outnumbering females approximately two to one. However, atypical ratios resulted from the random assignment of pupils to treatment groups, as one group had approximately 28 per cent females and the other had approximately 47 per cent females.

Instruments

An extended search for measures of social behavior was made. The selection of measuring instruments was based upon the purposes of the present study and availability of

appropriate measures for this particular intellectual and age level. Those which were selected did provide a variety of approaches to the study of social behavior but still lacked the optimum degree of acceptability normally desired in experimental studies. Among the instruments considered for use in the present investigation were the following: (a) The Tennessee Self-Concept Scale (Fitts, 1955), (b) Social Intelligence Test (Moss et al., 1927), (c) The Best Thing to Do: A Test of Knowledge of Social Standards (Tomlin, 1931), (d) Behavior Ratings of Pupils (Bower & Lambert, 1962), and (e) The Syracuse Scales of Social Relations (Gardner & Thompson, 1959).

The reliability and validity of measures selected, as with most instruments in the area of social behavior and competence, leaves much to be desired. The primary validity criterion for most of the measures selected was face validity. Validity coefficients were available for two of the measures, yet even these are not optimally meaningful out of the context in which they were reported. Three of the instruments are still experimental and have not been fully validated. While instruments of well established validity were sought and would have been highly desirable, the purposes of the present study were met by the employment of the measures of social behavior selected.

In the following section, a description and discussion of each of the measures of social behavior are presented.

Vineland Social Maturity Scale (Doll, 1953)

The Vineland Social Maturity Scale (VSMS) provides an assessment of the degree to which children show a progressive maturation in social competence and abilities leading to independence as adults. The general areas of the scale include self-help, self-direction, locomotion, occupation, communication, and social relations. Competencies are usually reported by a parent or other informant who knows the subject. In the present study, the alternate method of eliciting data through the subjects themselves was used (Doll, 1953, p. 292).

The median reliability coefficient reported for the VSMS was .96. Validity coefficients ranged from .85 to .88 when the criterion for validation was estimate of social age by examiners (Doll, 1953, pp. 433-434). Doll (1953, p. 435) acknowledged the sources of error in judgments or estimates of competence and cautions users in the interpretation of these validity coefficients. For the purposes of this study,

the VSMS was selected on face validity for providing a global assessment of social maturity and competence from the point of view of the subjects as they perceived their ability to perform certain specific social tasks. The raw score (obtained total score) was used in data analysis.

Test of Social Inference (Edmonson, et al., 1966)

The Test of Social Inference (TSI) is an experimental test of social perception and inference. It is purported to measure the extent to which a person can perceive cues in a social setting and make inferences as to their meanings. Performance on the test may range from simple enumeration of objects or persons to complex inferential reasoning. The test is composed of 35 photographs and drawings of interpersonal situations taking place in a variety of settings. It is individually administered and yields a score for the total number of inference credits and a score for the total number of errors.

The median reliability coefficient reported was .85. No validation data have been reported, but as it was devised to measure the particular social perception skills taught in the social perceptual training unit, its face validity and appropriateness were acceptable. Appendix A presents sample items from the TSI.

Behavior Rating Scale (Edmonson, et al., 1965)

The Behavior Rating Scale (BRS) for the present study was adapted from the scale used by Edmonson, de Jung, and Leland (1965). In the present investigation, it consisted of five subscales designed to provide a social behavior sampling based on within-school observations and ratings (see Appendix A). The five areas of behavior sampled included social relationship, social acceptance, social range, attentiveness to adult demands and influence, and social invisibility.

Observations and ratings were made by two outside raters who were familiar with educable retardate behavior and by each of the teachers in the study. Ratings of behavior were based upon a five-point continuum scale. Ratings by outside raters were combined into a total score (BRS-O) and teacher ratings were treated as independent rating scores (BRS-T). All outside rater observations were made during homeroom

periods or during the non-experimental class periods. Teachers rated each pupil enrolled in their own regular homeroom classes. These ratings were based upon observations during experimental and non-experimental class periods.

No reliability or validity data are available for the Behavior Rating Scale as adapted for this study. Preliminary study of reliability among raters on the ratings prior to the initiation of the study was made. The correlation coefficients were not significantly different from chance. These results preclude any conclusions from the analyses of the behavior ratings.

Bown Self-Report Inventory As Adapted by Stephens (Stephens, 1964)

The Bown Self-Report Inventory (BSRI) is a self-assessment instrument in which the subjects can record their own perceptions and feelings toward themselves and significant areas of their phenomenal world (see Appendix A). It purports to measure attitudes toward self, others, children, authority, work, reality, parents, and hope for the future. The adaptation by Stephens (1964) for mentally retarded persons was used. It was designed to be administered individually or in small groups of three or four and with all items read aloud. It yielded a total raw score. The reliability coefficients reported were .88 for test-retest correlation and .80 for split-half correlation. Validation data have been reported through factor analysis procedures. For construct validity there were .50 and -.27 factor loadings on the predictor variables of "openness to stimuli" and "alientation syndrome" respectively (Peck, Stephens, & Fooshee, 1964, p. 24). For concurrent validity, 14 significant Pearson product-moment correlations were obtained in correlating *t* scores of the BSRI total scores and *t* scores of the 80 criterion variables used by Peck, Stephens, and Fooshee (1964, p. 24). This instrument was selected for the present study on the basis of its face and statistical validity for the area of personal-social adjustment.

Fudell Test of Occupational Readiness (Fudell, 1963)

The Fudell Test of Occupational Readiness (FTOR) is a measure of the content achievement of Fudell's (1963) occupational education unit for secondary level educable retardates. The content was based upon information received from questionnaires completed by employers or potential employers

of retarded unskilled or semi-skilled workers. The test is purported to assess the extent to which the retardate has acquired basic information considered essential for entrance into an occupation by those who may employ him. The test was designed to be administered individually or in groups by reading all items aloud (see Appendix A). It yields a total raw score. Although there were no reliability or validity data available, content validity was assumed on the basis of the results of the Fudell (1963) study. Face validity was also accepted for the purposes of this investigation in measuring the level of achievement attained regarding certain facts and attitudes pertaining to employment.

Treatment

Teachers 1, 2, and 3 made use of the experimental curriculum, Perceptual Training for Community Living: A Pre-Vocational Unit for Retarded Youth, Revision 2 by Edmonson, Leach, and Leland (1965). This curriculum unit consists of 48 one-hour lessons on social perceptual training to be conducted over a period of 10 instructional weeks. The weekly units begin with a discussion of simple social cues, such as gestures, and progress through signal properties of settings and dress, participant roles in social settings, modes of non-verbal communication, and role-playing in interperson situations. Appendix B presents information concerning the teacher guide, a sample lesson, and the guidelines for administration of the unit in the present study.

Teachers 4, 5, and 6 taught classes serving as placebo groups. These classes had selected elements of the environment manipulated while a conventional special education curriculum was conducted. Appendix B presents the guidelines for teachers of placebo classes and descriptions of the weekly environmental manipulations.

Each of the treatment groups was taught by the regularly assigned teachers of the special classes. Each of the teachers received an orientation prior to the initiation of the study to enhance uniformity of teacher roles. The training and qualifications of the teachers participating in the study are presented in Appendix C.

Procedures

Procedures for conducting the present study are presented in this section. Procedures in the collection of

data and administration of treatments are described, followed by a discussion of procedures in analyses of data.

Testing Procedures

The measuring instruments were administered to all subjects prior to the treatment and immediately following the last week of treatment. The individually administered tests or scales were administered according to standard procedures as given in the manuals. The examiners for the study included graduate students and staff examiners of the Institute on Mental Retardation and Intellectual Development of George Peabody College for Teachers.

The first test given for all classes was the FTOR and was administered to intact class groups. The last test given was the TSI. The other instruments were administered in no special order. The battery was administered in separate sessions over a period of seven days to minimize fatigue. The primary purpose of the designated order of the FTOR and TSI was to begin the testing with a relatively simple, rapport-gaining instrument and complete the testing with the major criterion instrument after most of the subjects' test anxiety had diminished. It was not believed that counterbalancing order of tests or administration of the battery by one examiner in one session was practical, or that failure to do so would affect the results appreciably.

Other data collected included the following: (a) Weekly unit tests on the perceptual training unit for social behavior, (b) teacher evaluations of daily units from the perceptual training unit for social behavior, and (c) pupil evaluations of daily units from the perceptual training unit for social behavior. Procedures for collecting these data will be described below.

Weekly unit tests. Weekly unit tests were devised by the investigator to assess the extent of comprehension and retention of the content of each weekly unit of the perceptual training unit. These tests took the form of brief yes-no items which were read aloud by the teacher (see Appendix A). The tests were administered during the experimental class period at the end of each weekly unit. Pupils who were absent were not required to take the tests missed. Test scores were transformed into standard scores and averaged over the 10 weeks (see Appendix D).

Evaluations by teachers. Forms for the evaluations by teachers of the experimental perceptual training unit

consisted of a check list which permitted evaluation of specific concerns on a five-point scale. In addition, space was provided for narrative comments (see Appendix A). Teachers were asked to complete these evaluations daily.

Evaluations by pupils. Forms for the evaluations by pupils of the perceptual training unit were devised by the investigator (see Appendix A). These forms provided each pupil an opportunity to express his opinions on each daily lesson. Three questions were read aloud by the teacher at the close of each daily lesson. The pupils responded to each question on a three-point scale.

Results were available from only two schools on the weekly unit tests and the evaluations by pupils as one experimental teacher failed to collect these data as directed.

Treatment Procedures

The curriculum treatments were conducted simultaneously in the three schools. There was no interaction or communication between teachers from different schools. Materials and equipment for conducting the curriculum units as directed were provided prior to the initiation of the study or upon request during the treatment period. Teachers were provided with instructions for operating slide projectors or tape recorders upon request.

The decision to minimize the guidance and supervision of the experimental teachers in the teaching of the perceptual training unit was made prior to the beginning of the study. The experimental trial of curriculum materials involves teachers and the difficulty in separating teacher competency from curriculum effectiveness was recognized. The position was taken that if teachers were highly supervised in experimental trials of curricula, the question of teacher effectiveness without such supervision and guidance would remain unanswered. Study of this particular curriculum unit as a "package unit" to determine its effectiveness with a random selection of unsupervised teachers was the approach which was followed. The probable error of teacher variability was controlled by the extent that three teachers were used and these three were randomly selected from a pool of six teachers.

There was no attempt to prescribe the curriculum content of the placebo groups or to supervise any phase of the guidelines. Materials, reinforcement tokens, and assistance

were provided upon request. The suggestion in the guidelines, Appendix B, regarding content was followed by all teachers of placebo classes. This resulted in the placebo classes receiving instruction in such areas as occupations, grooming, health, manners, and general social studies.

The treatments extended over a period of 12 calendar weeks. Forty-eight daily units were taught during the treatment period. School schedules limited the instruction time of each experimental unit to 50 minutes rather than the one hour as proposed by the authors of the unit. This was further decreased by the changing of classrooms, setting up slide projector and equipment, and the administration of the daily evaluation by pupils and the weekly unit tests.

Analyses of Data

The primary analysis procedure was a Type III mixed analysis of variance design (Lindquist, 1953). Each of the measuring instruments, serving as dependent variables, were analyzed with this design. This design was selected because it permitted the simultaneous observation of the effects and interactions of curricula, schools, and time. It also permitted an efficient use of subjects as each subject could serve as his own control. A significance level of .05 was set.

A graphic presentation of the statistical design is shown in Figure 1.

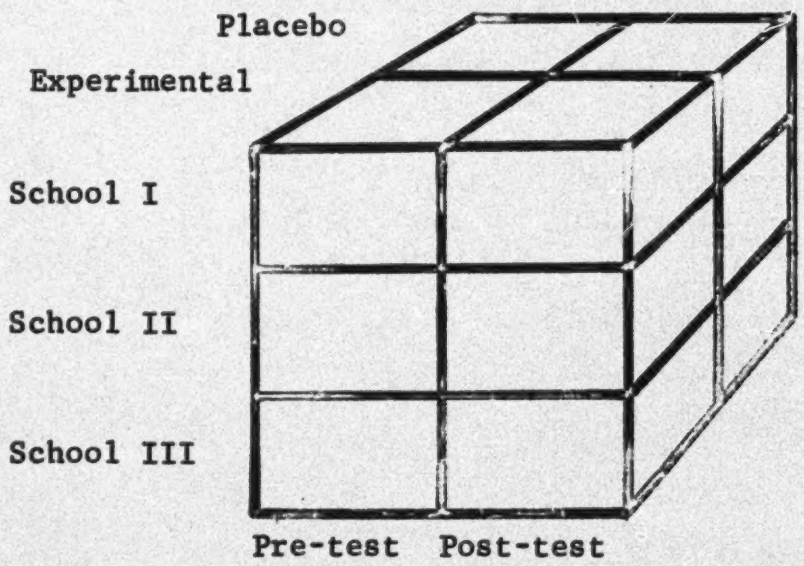


Figure 1. Statistical design

To insure that any differences between groups prior to the treatment were not influencing the results of the analysis of variance procedures, all scores were adjusted to remove the effects of chronological age, sex, and IQ. Adjustment of scores was accomplished by multiple regressions on all variables of interest and computations of differences between predicted and obtained scores. These "error" scores served as adjusted scores for each of the dependent variables (Edwards, 1960). The adjusted scores were then analyzed through simple analysis of variance of treatments x subjects x pre-post measurements.

A post hoc analysis of covariance was made to determine the effects of sex alone in the scoring by subjects in both experimental and placebo groups. The analyses of covariance were accomplished by using as covariants the chronological age, IQ, and initial performance of all subjects on each of the respective dependent variables (Lindquist, 1953). A more stringent level of significance for post hoc analyses was set at .025.

To determine the correlational relationship between achievement on the weekly unit tests on the perceptual training curriculum and achievement on the criterion post-test measures, the data were analyzed by a Pearson product-moment correlation procedure (Edwards, 1960).

Descriptive statistics were used for all quantifiable data on evaluations by teachers and pupils, and narrative description for the non-quantifiable data from evaluations by teachers.

The analyses of variance, analyses of covariance, and correlation procedures were accomplished by electronic data processing at the University of Illinois Computer Science Department.

Summary

This chapter has described the sample, the measuring instruments, and the procedures employed in this investigation. The sample consisted of 56 subjects whose chronological age ranged from 13-1 through 16-0, and whose intelligence quotients ranged from 53 through 80. The study involved six groups, an experimental and placebo in each of three schools. The efficacy of two curricular approaches in three schools over a treatment period of 10 instructional weeks was studied. In addition, evaluative data on the experimental perceptual

training unit by teachers and pupils were collected. Analyses of variance, analyses of covariance, and correlation procedures were used to analyze the data.

CHAPTER III

RESULTS

The results of the analyses of data are presented in this chapter. The statistical analyses were based upon tests of the effects of the experimental variables. These analyses included analyses of variance, analyses of covariance, and correlation procedures. Appendix D presents identifying data and scores for all subjects. Conclusions regarding the effects of experimental variables are drawn, followed by the descriptive statistics on evaluation by teachers and pupils.

The experimental variables were curricula, schools, and time. The dependent variables were measures of social behavior. The experimental variables were analyzed separately by each of the dependent variables.

Norton (1952) has demonstrated the strength of the F test with distributions characterized by non-normality and heterogeneity of variance. The assumptions underlying the employment of the F test were not tested as there were no obvious differences or unusual distributions of scores among groups. The Norton study is cited for support of this procedure. The atypical ratio of males to females was found to be non-significant by a Chi-square analysis.

The data were analyzed initially in a 2 x 3 x 2 Lindquist Type III mixed analysis of variance design as described in Chapter II. The results are summarized in Tables 1 through 7.

The results of the third order interaction among curricula, schools, and time were not significant on any of the dependent variables. The assumption of Hypothesis 7 that there would be no significant interaction among these variables was determined to be tenable.

The results of the tests of all second order interactions were not significant. Thus, the assumptions of Hypothesis 4, Hypothesis 5, and Hypothesis 6 that there would be no significant interaction between curricula and schools, curricula and time, or schools and time respectively were held tenable.

The tests of the main effects of curricula were not significant on any of the dependent variables. The assumption of Hypothesis 1 that performance would not differ from

Table 1

Analysis of Variance of Scores on the Vineland Social Maturity Scale

Source	df	Sums of Squares	Mean Square	F-ratio	$F_{.05}$
Between Subjects					
Schools	2	2.09	1.04	.02	3.19
Curriculum	1	.44	.44	.01	4.04
Schools X Curriculum	2	213.29	106.64	2.63	3.19
Error (Between)	50	2,025.39	40.51		
Within Subjects					
Pre-Post	1	1.75	1.75	.19	4.04
Pre-Post X Schools	2	2.37	1.19	.13	3.19
Pre-Post X Curriculum	1	1.08	1.08	.11	4.04
Pre-Post X Schools X Curriculum	2	19.70	9.85	1.05	3.19
Error (Within)	50	467.34	9.34		

Table 2

Analysis of Variance of Scores on the Fudell Test of Occupational Readiness

Source	df	Sums of Squares	Mean Square	F-ratio	$F_{.05}$
Between Subjects					
Schools	2	153.787	76.894	1.646	3.19
Curriculum	1	.223	.223	.005	4.04
Schools X Curriculum	2	28.606	14.301	.306	3.19
Error (Between)	50	2,335.950	46.719		
Within Subjects					
Pre-Post	1	122.223	122.223	15.085*	4.04
Pre-Post X Schools	2	14.427	7.213	.890	3.19
Pre-Post X Curriculum	1	2.009	2.009	.248	4.04
Pre-Post X Schools X Curriculum	2	22.741	11.370	1.403	3.19
Error (Within)	50	405.100	8.102		

*Significant at the .005 level.

Table 3

Analysis of Variance of Scores on the Test of Social Inference

Source	df	Sum of Squares	Mean Square	F-ratio	$F_{.05}$
Between Subjects					
Schools	2	379.33	189.66	.27	3.19
Curriculum	1	108.03	108.03	.15	4.04
Schools X Curriculum	2	2,836.31	1,418.16	2.03	3.19
Error (Between)	50	34,848.80	696.98		
Within Subjects					
Pre-Post	1	1,144.32	1,144.32	29.70*	4.04
Pre-Post X Schools	2	50.84	25.42	.66	3.19
Pre-Post X Curriculum	1	47.58	47.58	1.23	4.04
Pre-Post X Schools X Curriculum	2	.52	.26	.01	3.19
Error (Within)	50	1,926.23	38.52		

*Significant at the .005 level.

Table 4

Analysis of Variance of Scores on the Erros Made on the Test of Social Inference

Source	df	Sums of Squares	Mean Square	F-ratio	$F_{.05}$
Between Subjects					
Schools	2	144.401	72.200	1.894	3.19
Curriculum	1	.009	.009	.000	4.04
Schools X Curriculum	2	65.922	32.961	.865	3.19
Error (Between)	50	1,906.087	38.121		
Within Subjects					
Pre-Post	1	332.580	332.580	34.684*	4.04
Pre-Post X Schools	2	16.201	8.100	.845	3.19
Pre-Post X Curriculum	1	1.080	1.080	.113	4.04
Pre-Post X Schools X Curriculum	2	4.200	2.100	.219	3.19
Error (Within)	50	479.437	9.589		

*Significant at the .005 level.

Table 5

Analysis of Variance of Scores on the Bown Self-Report Inventory

Source	df	Sums of Squares	Mean Square	F-ratio	$F_{.05}$
Between Subjects					
Schools	2	2.812	1.406	.032	3.19
Curriculum	1	1.080	1.080	.024	4.04
Schools X Curriculum	2	110.745	55.372	1.258	3.19
Error (Between)	50	2,200.425	44.008		
Within Subjects					
Pre-Post	1	45.009	45.009	2.586	4.04
Pre-Post X Schools	1	108.941	54.470	3.130	3.19
Pre-Post X Curriculum	1	.009	.009	.000	4.04
Pre-Post X Schools X Curriculum	2	18.316	9.158	.526	3.19
Error (Within)	50	870.225	17.404		

Table 6

Analysis of Variance of Ratings on the Behavior Rating Scale by Outside Observers

Source	df	Sums of Squares	Mean Square	F-ratio	$F_{.05}$
Between Subjects					
Schools	2	114.585	57.292	1.082	3.19
Curriculum	1	.321	.321	.006	4.04
Schools X Curriculum	2	48.584	22.292	.421	3.19
Error (Between)	50	2,646.187	52.923		
Within Subjects					
Pre-Post	1	27.999	27.999	1.571	4.04
Pre-Post X Schools	2	54.956	27.478	1.542	3.19
Pre-Post X Curriculum	1	20.571	20.571	1.154	4.04
Pre-Post X Curriculum	2	1.585	.792	.044	3.19
Error (Within)	50	890.887	17.818		

Table 7

Analysis of Variance of Ratings on the Behavior Rating Scale by Teacher

Source	df	Sums of Squares	Mean Square	F-ratio	$F_{.05}$
Between Subjects					
Schools	2	82.902	41.451	1.321	3.19
Curriculum	1	40.080	40.080	1.278	4.04
Schools X Curriculum	2	41.970	20.985	.669	3.19
Error (Between)	50	1,568.325	31.366		
Within Subjects					
Pre-Post	1	1.080	1.080	.178	4.04
Pre-Post X Schools	2	31.245	15.622	2.579	3.19
Pre-Post X Curriculum	1	.009	.009	.001	4.04
Pre-Post X Schools X Curriculum	2	5.341	2.670	.441	3.19
Error (Within)	50	302.825	6.056		

pre-test to post-test significantly as a function of curriculum treatments was upheld.

There were no significant results of the tests of the main effects of schools. Thus, the assumption of Hypothesis 2 that performance of subjects from pre-test to post-test on all dependent variables would not differ as a function of school sampling was held tenable.

The results of the tests of main effects of time were mixed. The assumption of Hypothesis 3 that there would be no significant difference in performance on measures of social behavior from pre-test to post-test as a function of time was accepted for general measures of social competence and adjustment (VSMS, BSRI, BR-O, and BR-T). The assumption of Hypothesis 3 was not upheld for measures of social perception and inference (TSI and TSI Error) or occupational readiness (FTOR), as the differences between pre-test and post-test measures for these instruments were significant beyond the .05 level. The differences indicated gains from pre-test to post-test scores for both experimental and placebo subjects.

The results of the Lindquist Type III mixed analyses of variance were reaffirmed by the analyses of variance of scores adjusted for chronological age, sex, and IQ. No significant interactions or main effect of curriculum treatment were found, supporting the acceptance of Hypotheses 5 and 1. The experimental variable of schools was not incorporated into the analysis of variance of adjusted scores design. The assumptions of Hypothesis 3 were upheld again for the VSMS, BSRI, BR-O, and BR-T and rejected for the TSI, TSI Error, and FTOR. The significant differences were beyond the .05 level. Appendix F, Tables 11 through 17, presents the summary tables for analyses of variance of adjusted scores.

Post hoc analyses of sex effects on scores of all subjects for each of the dependent variables indicated that four of the measures of social behavior (FTOR, TSI Error, BR-O, and BR-T) were affected by sex differences, with females showing greater gains than males. These F-values were significant beyond the .025 level. Appendix G, Tables 18 through 24, presents the summary tables of the analyses of covariance for sex effects.

The results of the correlation between achievement on weekly unit tests in the social perceptual training unit and scores on all post-test measures were not significant for the VSMS, TSI, BSRI, and BR-O. Thus Hypothesis 8 was

tenable for these measures. The assumptions of Hypothesis 8 were rejected for the correlations between the weekly unit tests and the FTOR and BR-T. These significant correlations were beyond the .05 level. Table 8 presents the coefficients of correlation for this analysis.

Evaluations of the units by teachers are shown in Table 9. Teacher 1 gave the highest mean rating over all evaluation categories with a mean rating of 4.62 out of a possible rating of 5.0. Teacher 2 and Teacher 3 gave mean ratings of 3.47 and 4.24 respectively. Appendix E presents the average daily ratings by all the teachers. Daily lessons rated on the average 4.0 or higher comprised approximately 75 per cent of the lessons. Only one lesson was rated, on the average, below 3.4. Samples of narrative evaluations by teachers for daily lessons are presented in Appendix E.

Pupil evaluations are summarized in Table 10. Question 1 (Was the lesson interesting to you?) yielded high percentages of pupils responding favorably for each of the weeks. Weeks 4 and 5 received the highest percentage of unfavorable responses with 15.9 and 15.0 per cent respectively. Weeks 1, 8, 9, 10 evoked some ambiguity in opinion as the percentages for pupils responding to the "Don't know" choices were obviously higher than other weeks. Question 2 (Was the lesson easy to understand?) also resulted in a high percentage of favorable responses with percentages ranging from 69.1 to 84.9. The highest percentage of unfavorable responses to this question resulted in Week 8, but even then only 10.3 per cent of the pupils responding felt that the lessons were difficult to understand. Consistent ambiguity for a certain percentage of pupils continued through all weeks, as the percentage of pupils not knowing whether they thought the lessons were easy to understand ranged from 13.3 to 22.7. Question 3 (Was this lesson a good one for other teenagers like you to have?) also indicated a majority of the pupils responded favorably each week, although the percentages were generally lower for each week than for Questions 1 and 2. As in Question 2, the ambiguity was consistently high with the percentages ranging from 18.1 to 28.7. Weeks 4, 5, 6, and 8 yielded some indication of pupil opinion that these weekly units might be questionable for other teenagers. Responses for these weeks resulted in percentages of 13.3, 18.8, 12,4, and 11.6 respectively in the unfavorable category.

Summary

This chapter has presented the results of the statistical analyses and a summary of the descriptive statistics.

Table 8

Correlation Matrix of Post-Test Measures*

Dependent Variables	Dependent Variables						
	VSMS	FTOR	TSI	BSRI	BR-O	BR-T	WUT
Vineland Social Maturity Scale	1.00						
Fudell Test of Occupational Readiness	.17	1.00					
Test of Social Inference	.61***	.52**	1.00				
Bown Self-Report Inventory	.15	-.14	.21	1.00			
Behavior Rating (Observers)	.44	.09	.29	.36	1.00		
Behavior Rating (Teachers)	-.03	.26	.07	.43	.18	1.00	
Weekly Unit Test	.05	.68***	.22	-.11	.19	.51**	1.00

*Based upon two of the three experimental classes.
**Significant at the .05 level.
***Significant at the .01 level.

Table 9

Average Daily Evaluations of Social Perception Curriculum by Teachers

Evaluation Category	Teacher 1	Teacher 2	Teacher 3
Interest holding level	4.73	3.75	4.18
Language comprehension level	4.60	3.48	4.16
Usefulness of content	4.79	3.50	4.44
Adequacy of presentation	4.33	3.39	4.14
Estimation of assimilation by pupils	4.64	3.25	4.27

Note: Evaluations based on five-point continuum.

Table 10

Pupil Evaluations of Weekly Units in Social Perception Curriculum*

Week	Question 1			Question 2			Question 3		
	No	?	Yes	No	?	Yes	No	?	Yes
1	3.7	12.0	84.3	0.9	14.7	84.4	6.5	28.7	64.8
2	7.6	9.5	82.8	2.9	21.2	75.9	8.8	23.5	67.6
3	3.8	8.5	87.7	0.9	14.2	84.9	8.4	18.7	72.9
4	15.9	6.2	77.9	7.1	13.3	79.6	13.3	27.4	59.3
5	15.0	4.4	80.5	8.0	17.0	75.0	18.8	25.9	55.3
6	10.6	7.7	81.7	5.8	18.4	75.7	12.4	18.1	69.5
7	10.8	13.7	75.5	5.9	20.6	73.5	7.8	21.6	70.6
8	9.0	16.4	74.6	10.3	20.6	69.1	11.6	21.7	66.7
9	6.1	19.4	74.5	7.0	18.0	75.0	4.1	20.4	75.5
10	10.3	15.9	73.8	7.3	22.7	70.0	9.3	21.5	69.2

*Figures reported in terms of the percentage responding.

The analyses of variance indicated that the interactions and main effects of experimental variables were not significant, except in the case of significant gains for both experimental and placebo on three measures (TSI, TSI Error, and FTOR). Analyses of variance of scores adjusted to remove the effects of chronological age, sex, and IQ resulted in identical findings. There was a sex effect indicated on four of the measures (FTOR, TSI Error, BR-O, and BR-T), with female pupils showing the greater gains. Correlation procedures indicated significant correlation between weekly unit tests on the perceptual training unit and the FTOR and BR-T only. Evalua-tions by teachers and pupils of the perceptual training unit for social behavior indicated general approval.

were similar gains by both experimental and placebo groups. Apparently a conventional curriculum with environmental manipulations was as effective with this experimental sample as was social perceptual training. Several procedures used in testing and conducting the curriculum treatments may have accounted for these results.

First, it is possible that some of the measuring instruments used were not sensitive enough to measure the behavioral changes anticipated in the elapsed time devoted to this study. This hypothesis appears most tenable for the VSMS, BSRI, BR-O, and BR-T. The VSMS and BSRI were both scored on the basis of self-report by the pupils. It is suggested that a person perceives less change in himself than sensitive objective measures might reveal in him. From this view, self-report measures with mentally retarded persons would lack sensitivity for behavior changes anticipated in 10 weeks. Previous studies using the behavior ratings by observers and teachers have also failed to indicate gains reaching significance (Children's Rehabilitation Unit, 1966; Edmonson, Leland, de Jung, & Leach, 1967), even in the presence of other measured gains in social perception and inference. The lack of reliability among raters in the present study suggests that rating procedures used were not sensitive enough to measure behavioral changes.

The TSI, TSI Error, and FTOR were obviously sensitive enough to measure the areas of social behavior they were purported to measure. The fact that the placebo group improved as much as the experimental group on these measures raises the problem of determining whether the placebo group's gains were due to the Hawthorne effect, to comparable teaching effectiveness, or to other unknown factors. Edmonson, Leland, de Jung, and Leach (1967) reported significant gains by experimental classes over placebo classes when only movies and filmstrips were added to a conventional special education program. The Hawthorne effect did not appear to be operating in their placebo or control groups. In the present study, the placebo classes were manipulated in a variety of ways, all of which are generally recommended techniques of teaching (learning reinforcement, field trips, guest speakers, pupil-teacher conferences, etc.). There is the possibility that the employment of these techniques during the treatment period provided more than a Hawthorne effect and raised the quality of instruction. Conversely, there is the possibility that both groups were affected by the experimental mainpulations and reflected these effects on the two instruments most sensitive to these nuances.

Another possible way of accounting for the results was that the experimental procedures did not control the total curriculum to the extent that the effects of one curriculum approach could be isolated from the other. The treatment procedures precluded attempts by the investigator to (a) insure that experimental teachers were following the guides and using materials most effectively, (b) insure that placebo teachers were following their guidelines and were teaching conventional special class content, or (c) determine whether there was confounding of curriculum content during the remainder of the school day.

The explanations offered are hypotheses after the fact to account for the results of the present study. These hypotheses have implications for future research and will be discussed in a later section of this chapter.

Correlation Results

The results revealing the significant correlation of the weekly unit tests with the FTOR and BR-T indicate that these measures are related. By the nature of these measures, it would appear that achievement on weekly tests is related to the types of achievement where knowledge or recall of factual information is the desired behavior. The FTOR is highly achievement oriented and could be expected to measure abilities similar to those measured by weekly unit tests. The BR-T is not purported to measure any type of achievement of content, but may have reflected the values of achievement of the teachers giving the ratings. The strength of the weekly unit tests, as measured by standard scores, suggests the possibility of using a refined version as a criterion measure for future research with this unit.

Secondary to the findings regarding the correlation of the weekly unit tests with other measures, there were significant correlations between the TSI and the VSMS and the FTOR. These results provide some indication that these instruments are measuring similar social factors. The fact that the weekly unit tests did not correlate significantly with the TSI gives some support to the contention of Edmonson, Leland, de Jung, and Leach (1967) that the TSI is not an achievement test for the unit but measures more basic skills. The small sample for these intercorrelations (N=18) precludes conclusions regarding concurrent validity for any of the instruments.

Teacher Evaluations

The descriptive statistics revealing teachers' evaluations of the social perceptual training unit were generally most favorable. The narrative comments in Appendix E provided more of a feeling for the teachers' opinions than did the checklist data. The checklist data reflected differences in rating standards of the teachers when compared with the narrative comments. It was interesting to note that the teacher who consistently rated the weekly units lower than the other teachers was the teacher who was most positive in his narrative evaluations and asked for a copy to be used in the future with his classes.

The only daily lesson receiving a rating below average was Lesson I-E. This lesson called for a role playing in reading signs and signals in the community. Slides were presented giving signal cues and pupils "pretended" to be drivers or pedestrians. All teachers agreed that this activity was too juvenile for this age group.

Pupil Evaluations

Pupil evaluations were also favorable. The attitudes of some of the pupils toward school in general and this unit in particular were reflected in their ratings, according to the teachers. Teachers also reported that some pupils tired of rating the lesson each day and there was some doubt as to the validity of certain pupils' responses. Obvious flippant responses or patterned responses were deleted and no attempt to determine statistical significance was made. Nevertheless, the evaluations were accepted as gross indicators of pupil reaction to the unit and should be of some value to the authors for revisions.

Weeks 4 and 5 received the highest percentage of unfavorable responses regarding interest in the lessons. These weeks dealt with transactions (purchasing clothes primarily) and identifying people by their dress. These two weeks also received the highest percentage of negative responses regarding the appropriateness of these lessons for other teenagers. One reason to account for these ratings is that the majority of these retardates had experienced purchasing clothes and had had some experience in identifying people by their dress. The slides illustrating the identification of people by their clothing were not challenging or unusual enough to reveal to them their need for such instruction.

Conclusions

Conclusions drawn from the results of the present study are as follows:

1. The VSMS, BSRI, BR-O, and BR-T were not sensitive enough to measure the social behaviors being studied under the conditions of the present study.

2. There were no clear indications that gains manifested on the TSI, TSI Error, and FTOR for both experimental and placebo groups were due to treatment effects alone.

3. Weekly unit tests appear to have some merit in assessing achievement in the social perceptual training unit and in providing some basis for serving as a criterion measure in future efficacy studies with the unit.

4. This social perceptual training program for young educable adolescent retardates was found to be approved by teachers.

5. This social perceptual training program for young adolescent educable retardates was found to be interesting to pupils, within their level of comprehension, and to have some degree of acceptability in relation to status with peers.

Implications

Certain implications for education and research are evident on the basis of the results of the present study. These implications are discussed in the two sections which follow.

Implications for Education

The results of the present investigation suggest that further research with this unit is warranted. Educators have the responsibility of evaluating curriculum materials as they are developed. Experimental curriculum units, such as the one used in the present study, can and should be conducted with evaluation procedures. The teachers and pupils involved in the present study have indicated approval of the social perceptual training unit used. Upon their evaluations alone this unit would be recommended for general use in secondary special classes for educable mentally retarded pupils. However, the research findings indicate further

research is warranted with this particular revision of the unit (Revision 2) to determine its general effectiveness. The gains by placebo groups suggest that increased attention to pupils, provision of program structure, and employment of good teaching techniques may increase the effectiveness of a conventional curriculum. These results warrant further research also.

Implications for Research

Further research on the efficacy of the perceptual training unit used in the present study should consider more precise control on sex effects, socio-economic level, and the non-experimental aspects of the total curriculum. In addition, more control of Hawthorne effects should be employed, such as using more placebo groups under varying environmental conditions and more than one group receiving no treatment at all.

Other implications from the results of the present study include length of treatment and measuring instruments. A longer experimental period than 10 weeks should be considered to determine whether varying lengths of instructional time are factors in the study of social behavior. Closely related to the time factor is the measurement of social behavior. More refinement in measuring instruments should be a prerequisite for future studies. Measurements must be sensitive enough to reflect treatment effects within established instructional periods.

It would be well to determine through future research whether the results of the present study would continue to hold over time. The true effects of a treatment are more likely to persist over time after any environmental variables have been removed or lost their effect.

Summary

In the discussion of results there was an attempt to relate all findings to previous research and to account for certain findings. It was concluded that four of the seven dependent variables were not sensitive enough for measuring social behaviors under the given experimental conditions. It was also concluded that gains demonstrated by both experimental and placebo groups on the TSI, TSI Error, and FTOR could not be attributed to treatment effects alone. It was further concluded that weekly unit tests have some advantages when employed with the social perceptual unit. Finally, it

was concluded that training in social perception and inference and social behavior can be organized into a curriculum unit which is approved by teachers and pupils.

Implications for education were that training in social perception and inference, social adjustment, and occupational readiness can be employed and evaluated in school settings. Continued experimentation by educators with this unit or its revisions was suggested. The implications of the effects of a structured program using good teaching techniques within a conventional curriculum were pointed up. Implications for research were considered in terms of investigating variables not controlled in the present study and improving the degree of precision of control on the variables which were investigated.

CHAPTER V

SUMMARY

The purpose of this study was to determine the efficacy of a social perceptual training unit, as measured by a variety of measures of social behavior. Other factors studied in the experimental design were the effects of school bias in sampling, the effects of time on pre-test to post-test measurement, and the influence of a Hawthorne effect.

Fifty-six pupils from three schools were randomly assigned to experimental or placebo groups within each school. Teachers of the six classes were randomly assigned to teach an experimental or placebo class at their schools. Experimental teachers were oriented to the experimental project and given guidelines to follow as they used the experimental curriculum unit, Perceptual Training for Community Living: A Pre-Vocational Unit for Retarded Youth (Edmonson, Leach, & Leland, 1965). The placebo class teachers were oriented to the experimental project and given guidelines to follow each week. These guidelines provided for some manipulation of the placebo group environment without altering the regular curriculum content.

All pupils were pre-tested and post-tested with the following measures: (a) Vineland Social Maturity Scale (VSMS), (b) Fudell Test of Occupational Readiness (FTOR), (c) Test of Social Inference (TSI and TSI Error), (d) Bown Self-Report Inventory (BSRI), (e) Behavior Rating Scale by Outside Observers (BR-O), and (f) Behavior Rating Scale by Teachers (BR-T). Other data obtained during the study included weekly unit tests and teacher and pupil evaluations of the experimental perceptual training unit for social behavior.

Analyses of the data were made to determine differences between treatment groups by analyses of variance of obtained scores on all measures and analyses of variance of scores adjusted for chronological age, sex, and IQ. Both types of analyses yielded the same results--no differences between pre-test and post-test on four dependent variables (VSMS, BSRI, BR-O, and BR-T) and significant differences on three variables (FTOR, TSI, and TSI Error) beyond the .005 level. Both analyses indicated no significant differences between experimental and placebo groups on any of the dependent variables. A post hoc analysis of covariance of sex effects indicated that sex influenced performance significantly on

four of the seven measures of social behavior (FTOR, TSI Error, BR-O, and BR-T).

Multiple correlation procedures of post-test scores for the experimental group revealed significant correlations between the achievement scores on the weekly unit tests and the FTOR and BR-T. The TSI was significantly correlated with the VSMS and FTOR.

Teacher and pupil evaluations were generally very favorable regarding the interest level, comprehension level, and appropriateness of this unit. Ratings of daily units by teachers and pupils and narrative evaluations by teachers provided gross indications of weak areas in the unit. Ratings and comments should be of value in revisions of the unit.

In the discussion of the results it was concluded that:

1. The VSMS, BSRI, BR-O, and BR-T were not sensitive enough to measure the social behaviors being studied under the conditions of the present study.

2. There were no clear indications that gains manifested on the TSI, TSI Error, and FTOR for both experimental and placebo groups were due to treatment effects alone.

3. Weekly units appear to have some merit in assessing achievement in the social perceptual training unit and in providing some basis for measuring the efficacy of the unit in future investigations.

4. This social perceptual training program for young adolescent educable retardates was found to be approved by teachers.

5. This social perceptual training program for young adolescent educable retardates was found to be interesting to pupils, within their level of comprehension, and to have some degree of acceptability in relation to status with peers.

In view of the findings of the present study, certain implications for the education and training of the educable mentally retarded seem clear. Training in social perception and inference and development of social behavior repertoires can be developed, organized, and presented in a curriculum unit which has value to teachers and pupils. Educators have the responsibility of trying new curricula and evaluating them as they are developed. Educators also have the responsibility of evaluating more closely the effects of providing

some structure in a conventional curriculum which specifically calls for the employment of good teaching techniques.

Further research is warranted with this curriculum unit on social perception training to determine what effect sex, socio-economic level, length of instructional period, and environmental manipulations have on pupils. More precise control on non-experimental aspects of the total curriculum are needed to be able to isolate treatment effects. In future research, it would be helpful to know the long-term effects of social perceptual training.

REFERENCES

References

Allport, G. W. Personality: a psychological interpretation. New York: Holt, 1937.

American Psychological Association. Standards for educational and psychological tests and manuals. Washington, D.C.: Author, 1966.

Angell, R. R. Psychology: an introductory study of the structure and function of human consciousness (4th ed.). New York: Holt, 1908.

Baker, B. Accuracy of social perceptions of psychopathic and non-psychopathic prison inmates. In G. Lindzey (Ed.) Handbook of social psychology. Cambridge, Mass.: Addison-Wesley, 1954, Vol. I, 223-238.

Baller, W. R. A study of the present social status of a group of adults who, when they were in elementary schools, were classified as mentally deficient. Genetic Psychology Monographs, 1936, 18, No. 3.

Barker, R., & Wright, H. Midwest and its children: the psychological ecology of an American town. Evanston, Illinois: Row Peterson, 1955.

Bender, I. E., & Hastorf, A. H. The perception of persons: forecasting another person's responses on three personality scales. Journal of Abnormal and Social Psychology, 1950, 45, 556-561.

Benoit, E. P. The play problem of retarded children. American Journal of Mental Deficiency, 1955, 60, 41-55.

Blake, R. P., & Ramsey, G. V. (Eds.) Perception: an approach to personality. New York: Ronald, 1951.

Bower, E. M., & Lambert, Nadine M. Behavior Ratings of Pupils. California State Department of Education, 1962.

Bram, J. Language and society. Garden City, N.Y.: Doubleday, 1955.

Bruner, J. S. Going beyond the information given. In Contemporary approaches to cognition: a symposium held at the University of Colorado. Cambridge: Harvard University Press, 1957. Pp. 41-69.

Bruner, J. S. On perceptual readiness. In R. J. C. Harper and C. C. Anderson (Eds.), The cognitive processes: readings. Englewood Cliffs, N. J.: Prentice Hall, 1964.

Bruner, J. S. Personality dynamics and the process of perceiving. In R. P. Blake and G. V. Ramsey (Eds.), Perception: an approach to personality. New York: Ronald, 1951. Pp. 121-147.

Bruner, J. S., & Postman, L. An approach to social perception. In W. Dennis (Ed.), Current trends in social psychology. Pittsburgh: University of Pittsburgh Press, 1948. Pp. 71-118.

Cameron, N. Perceptual organization and behavior pathology. In R. P. Blake and G. V. Ramsey (Eds.), Perception: an approach to personality. New York: Ronald, 1951. Pp. 283-306.

Cameron, N. The psychology of behavior disorders. Boston: Houghton-Mifflin, 1947.

Cameron, N., & Magaret, Ann. Behavior pathology. Boston: Houghton-Mifflin, 1951.

Children's Rehabilitation Unit, Progress Report (Project No. RD-1388-P) Children's Rehabilitation Unit, University of Kansas Medical Center, Kansas City, Kansas, July, 1966.

Cohen, J. An analysis of vocational failures of mental retardates placed in the community after a period of institutionalization. American Journal of Mental Deficiency, 1960, 65, 371-375.

Collman, R. D., & Newlyn, D. Employment success of mentally dull and intellectually normal ex-pupils in England. American Journal of Mental Deficiency, 1957, 61, 484-490.

Cooley, C. E. Roots of social knowledge. American Journal of Sociology, 1926, 32, 59-79.

Cooley, C. H. Social organization. New York: Scribner, 1912.

Cottrell, L. S. Some neglected problems in social psychology. American Sociological Review, 1950, 15, 705-713.

Cottrell, L. S. The analysis of situational fields in social psychology. American Sociological Review, 1942, 7, 370-382.

Cottrell, L. S., & Dymond, Rosalind F. The empathic responses: a neglected field of research. Psychiatry, 12, 1949, 355-359.

Dember, W. N. The psychology of perception. New York: Holt, Rinehart, & Winston, 1960.

Doll, E. A. The measurement of social competence: a manual for the Vineland Social Maturity Scale. Philadelphia: Educational Publishers, 1953.

DuBois, Cora. Attitudes toward food and hunger in Alor. In L. Spier and others, Language, culture, and personality. Menasha: Sapir Memorial Publication Fund, 1941.

Dymond, R. F. A preliminary investigation of the relationship of insight and empathy. Journal of Consulting Psychology, 1948, 12, 228-233.

Dymond, F. R. Empathic ability: an exploratory study. Unpublished doctoral dissertation, Cornell University, 1949.

Dymond, R. F. Personality and empathy. Journal of Consulting Psychology, 1950, 14, 343-350.

Edmonson, Barbara. Social inference training of the retarded: an approach to rehabilitation. Paper read at American Orthopsychiatric Association Workshop, San Francisco, 1966.

Edmonson, Barbara, de Jung, J. E., & Leland, H. Social perceptual (nonverbal communication) training of retarded adolescents. Mental Retardation, 1965, 7, 7-9.

Edmonson, Barbara, de Jung, J. E., Leland, H., & Leach, Ethel. A test of social inference. Kansas City, Kansas, 1966.

Edmonson, Barbara, Leach, Ethel, & Leland, H. Perceptual training for community living: a pre-vocational unit for retarded youth. Unpublished manuscript, 1965.

Edmonson, Barbara, Leland, H., de Jung, J. E., & Leach, Ethel M. Increasing social cue interpretations (visual decoding) by retarded adolescents through training. American Journal of Mental Deficiency, 1967, 71, 1017-1024.

Edwards, A. L. Statistical methods for the behavioral sciences. New York: Rinehart, 1960.

Eichman, W. J. A social competence inventory for adults (a review). In O. K. Buros (Ed.), The Sixth Mental Measurements Yearbook, Highland Park, N. J.: Gryphon 1965.

Fitts, W. The role of the self-concept in social perception. Unpublished doctoral dissertation, Vanderbilt University, 1955.

Freud, S. The basic writings of Sigmund Freud. New York: Modern Library, 1938.

Fudell, S. E. Occupational education units for mentally retarded adolescents. Unpublished doctoral dissertation, University of Texas, 1963.

Gage, N. L. Judging interests from expressive behavior. Psychological Monographs, 1952, 66, No. 18 (Whole No. 350).

Gage, N. L., & Suci, G. P. Social perception and teacher-pupil relationships. Journal of Educational Psychology, 1954, 42, 411-414.

Gardner, E. F., & Thompson, G. Syracuse scales of social relations. Tarrytown, New York: Harcourt, Brace, & World, 1959.

Gates, G. S. Growth of social perception. Journal of Experimental Psychology, 1923, 14, 449-462.

Gibson, Eleanor J. Improvements in perceptual judgments as a function of controlled practice or training. Psychological Bulletin, 1953, 50, 401-432.

Goffman, E. Behavior in public places. London: Free Press of Glencoe, 1963.

Goffman, E. Encounters. Indianapolis, Indiana: Bobbs-Merrill, 1961.

Goldstein, H., & Seigle, D. The Illinois plan for special education of exceptional children: a curriculum guide for teachers of the educable mentally handicapped. Circular series B-3, No. 12, Office of the Supt. of Public Instruc., Danville, Ill.: Interstate Printers & Publishers, 1958.

Guilford, J. P. Experiment in learning to read facial expression. Journal of Abnormal and Social Psychology, 1929, 24, 191-202.

Hilgard, E. R. The role of learning in perception. In R. P. Blake and G. V. Ramsey (Eds.), Perception: an approach to personality. New York: Ronald, 1951. Pp. 95-120.

Hunt, T. The measurement of social intelligence. Journal of Applied Psychology, 1928, 12, 317-334.

Hutt, M. L., & Gibby, R. G. The mentally retarded child. Boston: Allyn & Bacon, 1958.

Ingram, Christine P. Education of the slow-learning child. New York: World Book, 1953.

Jones, E. E., & Thibaut, J. W. Interaction goals as bases of inference in interpersonal perception. In R. Tagiuri and L. Petrullo (Eds.), Person perception and interpersonal perception. Stanford, California: Stanford University Press, 1958.

Kanner, L. Judging emotions from facial photographs. Psychological Monographs, 1930, 40, 184-187.

Kirk, S. A., & Johnson, G. O. Educating the retarded child. Cambridge, Mass.: Houghton Mifflin, 1951.

Klages, L. The science of character. London: Allen & Unwin, 1929.

Kohler, W. Gestalt psychology. New York: Liveright, 1947.

Lee, J. J. A study of social adequacy and of social failure of mentally retarded youth in Wayne County, Michigan. Detroit, Michigan: Wayne State University, 1959. (USOE Cooperative Research Report, #179)

Levy, L. H., Orr, T. B., & Rosenzweig, S. Judgments of emotion from facial expressions by college students, mental retardates, and mental hospital patients. Journal of Personality, 1960, 28, 342-349.

Lindquist, E. F. Design and analysis of experiments in psychology and education. Boston: Houghton Mifflin, 1953.

Lipps, T. Leitfaden der psychologie. Leipzig: W. Engelmann, 1909.

McCarthy, J. Educational materials. Education and Training of the Mentally Retarded, 1966, 1, 24-31.

McDougall, W. Introduction to social psychology. London: Methuen, 1908.

Matkom, A. J. Impression formation as a function of adjustment. Psychological Monographs, 1963, 77, 1-19.

Mead, G. H. Mind, self, and society. Chicago: University of Chicago Press, 1934.

Moreno, J. L. Psychodrama. Vol. I. New York: Beacon House, 1946.

Moss, F. A. Applications of psychology. Boston: Houghton Mifflin, 1929.

Moss, F. A., Hunt, T., Omwake, K. T., & Ronnig, M. M. Social intelligence test. Washington: Center for Psychological Service, 1927.

Norman, R. D. The interrelationships among acceptance-rejection, self-other identity, insight into self, and realistic perception of others. Journal of Social Psychology, 1953, 37, 205-235.

Norton, Dee W. An empirical investigation of some effects of non-normality and heterogeneity on the F-distributions. Unpublished doctoral dissertation, State University of Iowa, 1952.

Osgood, C. E. A behavioristic analysis of perception and language as cognitive phenomena. In R. J. C. Harper, et al. (Eds.), The cognitive processes: readings. Englewood Cliffs, N. J.: Prentice-Hall, 1964.

O'Sullivan, Maureen, Guilford, J. P., de Mille, R. The measurement of social intelligence. Los Angeles: University of Southern California, 1965. (USOE Cooperative Research Report, #1976)

Peck, J. R., Stephens, Will Beth, & Fooshee, D. K. The Texas screening battery for subnormals. Austin, Texas: Authors, 1964.

Peckham, R. A. Problems in job adjustment of the mentally retarded. American Journal of Mental Deficiency, 1951, 56, 448-453.

Peterson, L. R., & Smith, L. L. A comparison of the post-school adjustment of educable mentally retarded adults with that of adults of normal intelligence. Exceptional Children, 1960, 26, 404-408.

Pilkey, Loraine, Goldman, M., & Kleinman, B. Psychodrama and empathic ability in the mentally retarded. American Journal of Mental Deficiency, 1961, 65, 595-605.

Ruesch, J., & Kees, W. Nonverbal communication: notes on the visual perception of human relations. Berkeley, California: University of California Press, 1956.

Saenger, G. Factors influencing the institutionalization of mentally retarded individuals in New York City. Albany, New York: New York State Interdepartmental Health Resources Board, 1960.

Sarbin, T. R. Contributions to role-taking theory. I. Hypnotic behavior. Psychological Review, 1950, 57, 255-270.

Sarbin, T. R. Role theory. In G. Lindzey (Ed.), Handbook of social psychology. Cambridge: Addison-Wesley, 1954. Pp. 233-258.

Scheler, M. Phanomenologie der sympathie-gefuhle. Bonn: F. Cohen, 1926.

Solley, C. M., & Murphy, G. Development of the perceptual world. New York: Basic Books, 1960.

Steiner, I. D. Interpersonal behavior as influenced by accuracy of social perception. Psychological Review, 1955, 62, 268-274.

Stephens, W. Beth. Adaptation of Bown self-report inventory. In J. R. Peck, W. Beth Stephens, and D. K. Fooshee (Eds.), Texas screening battery for subnormals: manual. Austin, Texas, 1964.

Sullivan, H. S. Conception of modern psychiatry. Washington, D.C.: The William Alanson White Psychiatric Foundation, 1947.

Taft, R. Some correlates of the ability to make accurate social judgments. Unpublished doctoral dissertation, University of California, 1950.

Tagirui, R., & Petrullo, L. (Eds.) Person perception and interpersonal perception. Stanford, California: Stanford University Press, 1958.

Tarjan, G. Research and clinical advances in mental retardation. Journal of the American Medical Association, 1962, 182, 617-621.

Thorndike, E. L. Intelligence and its uses. Harper's Magazine, 1920, 140, 227-235.

Tomlin, F. E. The best thing to do: a test of knowledge of social standards. Stanford, California: Stanford University Press, 1931.

Vernon, P. E. Some characteristics of the good judge of personality. Journal of Social Psychology, 1933, 4, 42-57.

Wedeck, J. The relationship between personality and psychological ability. British Journal of Psychology, 1947, 37, 133-151.

Weinberg, S. K. Society and personality disorders. New York: Prentice-Hall, 1952.

Wolf, R., & Murray, H. A. An experiment in judging personality. Journal of Personality, 1937, 3, 345-365.

Wolin, L. R. An analysis of the content of interpersonal perception. Unpublished doctoral dissertation, Cornell University, 1955.

APPENDIXES

APPENDIX A

SAMPLE TEST ITEMS, TEST FORMS, AND RATING FORMS

	Sc.	Scorable Responses	Non-Scorable Responses	Errors
29. Girl Greeting Williams "From what you see in this picture, what can you tell me has happened and is happening?"	1	Important people/ambassador/governor/politician	Shaking hands He's in (from)	Boy (greeting him)
	1/2	Arrived/leaving (by plane)	Navy	Army plane
	1/2	(Arrived/leaving) by plane	Missionary	Just married
	1	Being greeted/met/welcomed in South or Africa	Don't know	Woman crying/praying
	2			Funeral
If response, "She's bringing flowers," ask "Why?"	or			
	1	Foreign country		
	1	From U.S./from overseas		
	1	People are happy to see them		
	1	Newspaper reporter in background		
30. Tunisian Leaders "From what you see in this picture, what can you tell me is happening?"	1	Important people/leaders/high officials	People waving Driving through town	Shriners Lodge Lic[illegible]
	1	Running for office/newly elected/campaigning	Voting	Gi[illegible]g a speech
	1	People hope he wins	Don't know	Riding on a streetcar
"Anything else?"	1	Man just made a speech/going give speech		
	1	Being greeted/paraded/in a parade		
	2	In Mohammedan country		
	or	(Egypt/Tunis/Morocco/Africa		
	1	in foreign country		
	1	Men riding in jeep		
	1	Big city		

Inf.	Errors

RATER INSTRUCTIONS

1. Read the criteria to be used in evaluating pupil performance.

2. Call upon your experience with retarded youth of similar ages (12-0 to 16-0) and try to recollect one individual as the most outstanding in respect to the criterion description. Write his or her name in the box marked "most." Next, recall the poorest individual you can remember with respect to the criterion and enter his or her name in the "least" box. Next, fill in the "middle" box with the name of a retarded youth who fits the description "middle." Then complete the frame of reference by writing in names of two boys or girls you recall as midway between the poorest and the middle and between middle and most outstanding.

3. Evaluate each of the listed pupils with respect to criterion. Make a check mark at the segment of the line adjacent each ratee that indicates where he stands in relation to the frame of reference.

4. When you finish, check back to make sure that each pupil has been given a rating.

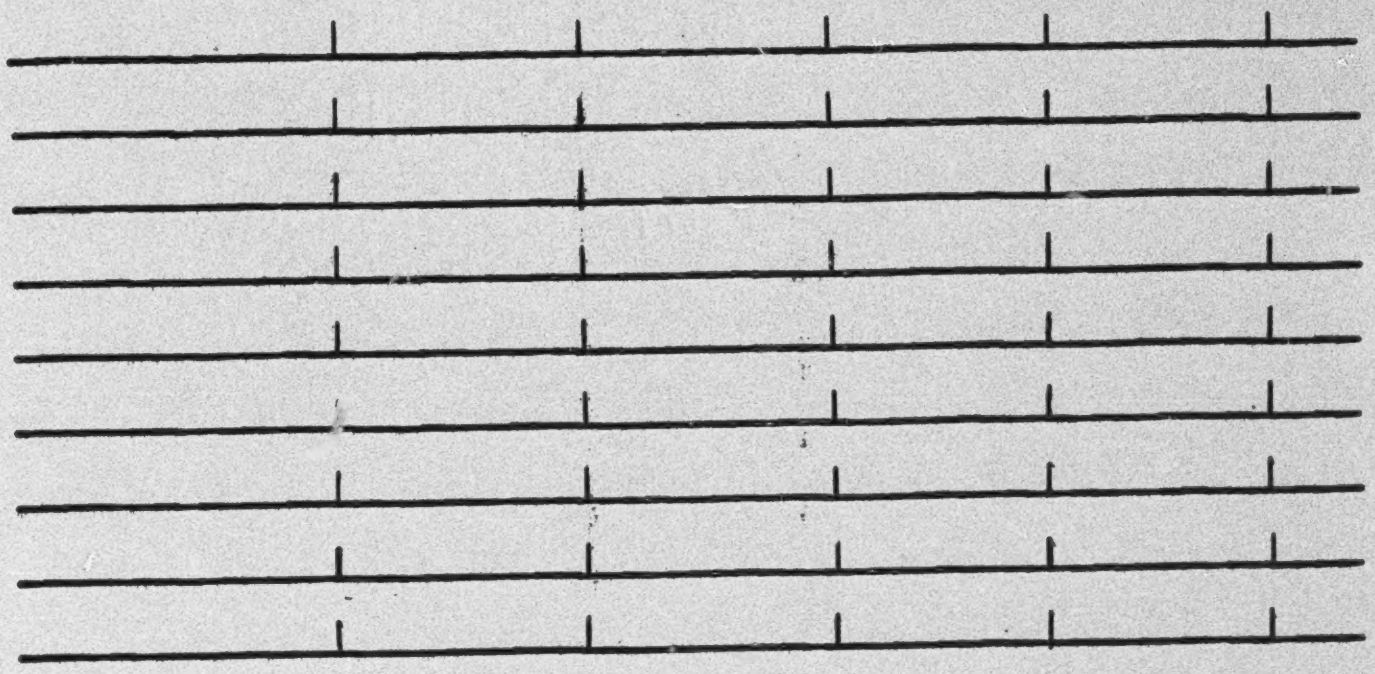
BEHAVIOR RATING SCALE

Criterion: ATTENTIVENESS And Receptivity: Responds completely to task or person speaking; listens and retains and follows instructions. Pays close attention to work.

Frame of Reference

least	between	middle	between	most
Negligible attention span regardless of task.	Often difficult to hold attention & foster retention.	Will pay attention when interested or with outside help. Some retention.	Tries to be attentive & tentive. Some improvement possible.	Pays close attention to directions and work.

Pupils



BOWN'S SELF-REPORT INVENTORY AS ADAPTED FOR YOUNG ADULTS BY STEPHENS*

Name_____

INTRODUCTORY ITEMS

Yes No It makes me happy to help someone do something they want to do.

Yes No I don't mind if I'm late getting some place.

Yes No 1. Having good friends means a lot to me.

Yes No 2. It's hard for me to get down to work, and I have to keep after myself to get something done.

Yes No 3. My parents were kind to me.

Yes No 4. I really look forward to having a good job and staying with it.

Yes No 5. I never liked teachers or bosses who told me what to do.

Yes No 6. I feel happy when I am with little children.

Yes No 7. I don't think much of myself.

Yes No 8. I think it is better to try and fail than not to try at all.

Yes No 9. I have done just enough to get by.

Yes No 10. I want to work and live with other people and be important to them.

Yes No 11. Most people had more fun with their parents than I did with mine.

---

*Reproduced through permission of O. H. Bown and W. B. Stephens. Copyright 1964, J. R. Peck and W. B. Stephens.

Yes No 12. I know that someday I will get a job doing the work I like best.

Yes No 13. I don't like to stay around people who are lots older than I am.

Yes No 14. It is easy for me to let young children know that I like them.

Yes No 15. I think life is pretty bad and things will probably get worse.

Yes No 16. I can't stand not knowing how things are going to turn out.

Yes No 17. I used to wish my parents and I loved each other more.

Yes No 18. I hate thinking about settling down to a job and having to take care of myself.

Yes No 19. I get along well with children, and this is important to me.

Yes No 20. Thinking back, I don't think I ever liked myself very well.

Yes No 21. One of the most important things to me about a job is getting along with my boss.

Yes No 22. Thinking of death makes me feel afraid and unhappy.

Yes No 23. I like people very much.

Yes No 24. I have always done the right amoung of work and the right amount of play.

Yes No 25. I wouldn't like to be around young children all the time.

Yes No 26. I'm glad I'm the kind of person I am.

Yes No 27. It may look like my parents and I get along, but we really don't.

Yes No 28. I think in the next few years I will be happier and more important than I am now.

Yes No 29. I do my job just to get it over with, not because I like it.

Yes No 30. I like to know all kinds of people, whether they are good or bad.

Yes No 31. I never liked to have to do things I was supposed to.

Yes No 32. There are times when I'm happy and times when I'm sad, but I'm still glad to be alive.

Yes No 33. When I think about the kind of person I've been, I'm not very happy or proud.

Yes No 34. I like to know bosses and important people.

Yes No 35. I used to think little children were a lot of trouble.

Yes No 36. I do my work when it is supposed to be done and don't put it off until the last minute.

Yes No 37. It doesn't seem fair that the people I love will die someday.

Yes No 38. I don't care too much what other people think of me.

Yes No 39. I think I will be a really good parent.

Yes No 40. I have to do a job well in order to feel good about it.

Yes No 41. My parents trust me, and I trust them.

Yes No 42. I'd give a lot to be different than I am.

Yes No 43. I think I will always have lots of real good friends.

Yes No 44. I suppose I will always have somebody checking on me, but I don't think I'll ever like it.

Yes No 45. I have always liked little children a lot.

Yes No 46. I'm happy about the way my parents and I get along.

Yes No 47. I don't think I'll ever have many real good friends my own age.

Yes No 48. This is a pretty good old world, and I'm glad I am alive.

FUDELL TEST OF OCCUPATIONAL READINESS

Student's Name_____ School_____

Teacher's Name_____ Date_____

How to answer these sentences:

Yes No Put a line under the word Yes if you think the sentence is right.

Yes No Put a line under the word No if you think the sentence is not right.

Yes No Teachers pay us a salary for going to school.

Yes No If we have a job and work hard we will make money.

Yes No 1. If you cannot get along with your fellow workers you will lose your job.

Yes No 2. In order for you to get up early enough so that you will be at work on time, it's up to your mother and family to wake you.

Yes No 3. A good worker finishes his work. He does not leave any left overs for someone else to finish.

Yes No 4. When you must be absent from work or school you do not have to call your teacher or boss.

Yes No 5. When you have finished some work you should sit down and rest.

Yes No 6. If your boss asked you to work a little later to finish some work, tell him no.

Yes No 7. When you go for a job interview act like you are a sleepy person.

Yes No 8. If you have quit many jobs or been fired from many jobs it will be very hard for you to find a new job.

Yes No 9. Always say bad things about the business you work for.

Yes No 10. When you go for a job interview wear your Sunday clothes.

Yes No 11. When some people make fun of you the best thing to do is to try to stay away from these people.

Yes No 12. A good worker is often absent from work and often late for work.

Yes No 13. Getting along with your fellow workers means that you must be nice to them, help each other in your work, and never start any fights.

Yes No 14. A good worker will never stay past quitting time to finish some work he can finish in a little while.

Yes No 15. When you must work with people who make fun of you and you cannot stay away from these people, the best thing to do is not to answer them. Keep quiet.

Yes No 16. A willing worker is a lazy worker.

Yes No 17. If you are not sure how to do something on your job, do not find out, go ahead and do it.

Yes No 18. A good worker wants to be told how to do his work right if he is doing it wrong, and does not become angry when he is told how to do it.

Yes No 19. A good worker does a lot of resting. He waits for someone to tell him what to do all the time.

Yes No 20. A good worker is careful and he is a safe worker.

Yes No 21. To get a raise in salary means that you will be making less money.

Yes No 22. A good worker is on time every day and is never late.

Yes No 23. You can learn good work habits in school and carry them over to a job.

Yes No 24. A good worker does as little as he can, and tries to do less work.

Yes No 25. You would like to work with a person who is always late.

Yes No 26. A boss hires you so he can make money from your work.

Yes No 27. If you are late for school you can get thrown out of school, if you are late for work your boss can keep you in after work.

Yes No 28. A good worker always gives himself some extra time if he has to change clothes for his job so he will not be late.

Yes No 29. To get a raise in salary, sit around and keep sitting around.

Yes No 30. A good worker comes to work every day. He is absent only when he really is sick or only for very important things.

Yes No 31. A good worker tries to hide from work. When there is work to do he tries to hide himself.

Yes No 32. To follow orders the right way you should listen carefully and remember what you were told.

Yes No 33. An honest worker will cheat his boss out of his work.

Yes No 34. The habits you use in school to get a raise in grades are not the same habits you use on a job to get a raise in salary.

Yes No 35. A lie detector test can not tell if you are a cheat or not honest.

Yes No 36. It is important to follow orders in the right way, because if you do not, you can lose time and waste material that costs your boss money.

Yes No 37. A good worker can be counted on to do his work, get along with his fellow workers, and to do extra work.

Yes No 38. An honest person should be afraid of a lie detector test.

Yes No 39. An honest worker works hard all day and never takes anything that does not belong to him.

Yes No 40. To get a raise in salary you must do more work, so your boss can make more money from your work.

Yes No 41. A good worker tries to improve his work and to do more work.

Yes No 42. A good worker offers his help before he is asked to do the work.

SOCIAL PERCEPTION CURRICULUM UNIT

Weekly Tests

At the end of each weekly unit, the teacher will distribute the weekly test form and instruct the students to circle Yes if they agree with the sentence or circle No if they do not agree. The teacher will read aloud each sentence or statement. Each statement may be read more than once. Be sure each pupil has his name on the test form.

Unit I

Yes No 1. A gesture is a signal you make with your hand or arm.

Yes No 2. You cannot say anything to other people without using words.

Yes No 3. A person with his right hand placed over his heart is trying to attract attention or signal someone.

Yes No 4. Signs in traffic can tell us things by their shape and color even if there are no words on them.

Yes No 5. When you swear in court you raise your right hand.

Unit II

Yes No 1. An "Exit" sign over a door means "keep out."

Yes No 2. You will usually find a ticket counter in front of most clothing stores.

Yes No 3. A lock on the door means that you can come inside if you pay.

Yes No 4. When you put money in a vending machine and do not get anything out, you shake it or bang on it.

Yes No 5. A clue that helps us know who the cashier is, is finding the cash register.

Yes No 6. Sometimes the cashier and the checker are the same person.

Yes No 7. A bus depot or terminal is where you go to buy a ticket to take a trip on a bus.

Unit III

Yes No 1. In large stores it may save time to ask where things can be found that you want to buy.

Yes No 2. There are different ways of paying for things you buy.

Yes No 3. You can recognize a store clerk by a nametag, a uniform, or by where they are standing.

Yes No 4. If you want to try on clothes before you buy them, you may do it in the nearest restroom.

Yes No 5. The credit department in a store is where you can get your checks cashed.

Unit IV

Yes No 1. If you wanted to buy some toothpaste and a hub cap for your car, you would probably have to go to two stores.

Yes No 2. If you wanted to buy some shoes, some shoestrings, and some shoe polish, you might be able to buy them all in one store.

Yes No 3. If you do not know your size for certain kinds of clothes, you can use a tape measure to find out.

Yes No 4. If your shoes do not fit well in the store you may ask to wear them for a few weeks to try them out.

Yes No 5. The first things you ask yourself when you go into a store are, "What do I need?," "How much can I spend?," and "What size do I need?"

Unit V

Yes No 1. Some people wear uniforms or special work clothes because of the kind of work they do.

Yes No 2. Some uniforms or special work clothes are for protection.

Yes No 3. Some persons wear uniforms to show that they are special people.

Yes No 4. The kind of clothes a person is wearing tells us what he is or what he is doing.

Yes No 5. You cannot tell who or what a person does for a living by the way he is dressed, where he is, or what he is doing.

Unit VI

Yes No 1. When you live on your own you need to know how to travel.

Yes No 2. In small towns, the bus depot might be a cafe or a filling station instead of a special building.

Yes No 3. People who have rooms to rent do not put up signs or advertise in the newspaper because they would be bothered by all the questions people would ask.

Yes No 4. When you ride a city bus and do not know where to get off, the best person to ask is the person sitting closest to you.

Yes No 5. When you live alone you have to keep yourself and your clothes clean and neat in order to hold a job and live in a nice rooming house or apartment.

Yes No 6. When you share a bath and a sleeping room, it means you do not have a private room and bath.

Yes No 7. When you lose something there is nothing you can do to get it back.

Unit VII

Yes No 1. Eating at a boarding house costs less than eating at cafes or cafeterias.

Yes No 2. Taking your clothes to the laundry is cheaper than doing them yourself.

Yes No 3. It does not take much practice before you really know how to manage your money.

Yes No 4. At school the teacher is there tc help you but at work you are there to help the boss.

Yes No 5. It is not necessary to telephone your boss when you will be late or absent because you can tell him when you see him.

Yes No 6. Being careful and practicing doing things will help you keep from breaking things on the job.

Unit VIII

Yes No 1. Being able to tell time is important in keeping a job.

Yes No 2. A social security card is something you must have before you can be hired for most jobs.

Yes No 3. Your job is really not important unless you have someone under you that you can tell what to do.

Yes No 4. It is all right to be late or absent for work because no one misses you anyway.

Yes No 5. The way you act depends on where you are and what is supposed to be going on there.

Yes No 6. A classroom is much more serious than a ball game or party.

Yes No 7. When you are on a job it is usually more serious than when you are in school.

Unit IX

Yes No 1. One reason for not having a good time with others is not knowing what you are supposed to do or how to do it.

Yes No 2. If you are not good at something the first time you try it, even practice will not help you do better.

Yes No 3. One way of getting other people interested in doing something with you is to teach them how.

Yes No 4. There are times when people are not in the mood to play games and want to be alone.

Yes No 5. The way we talk to others make a difference in the way we feel and in the way they feel.

Yes No 6. It does not make you feel any different when someone tells you that you have done a good job.

TEACHER EVALUATION OF PRE-VOCATIONAL UNIT ____

	Low	Below Average	Average	Above Average	High
Interest holding level					
Language comprehension level					
Usefulness of content					
Adequacy of presentation					
Estimation of assimilation by pupils					

Teacher criticisms of lesson and suggestions for further improvement:

INSTRUCTIONS FOR PUPIL EVALUATION FORM

1. Have one responsible pupil assigned to distribute the evaluation forms each day after the daily unit is completed. (This can be rotated among the students.)

2. Instruct the pupils to put their names at the top of the form.

3. Instruct the pupils to write your name to the right of their own names in the blank provided.

4. Read the following instructions to the pupils:

   "This is your chance in this experiment to say how you feel about the lessons you will have at this period during the coming weeks. It is a way of voting for the way you feel about each lesson. Be honest in your answers. Do not think that you have to say that you liked it to please anyone. No one but Mr. Clark will see your answers.

   "Read the instructions silently while I read them aloud. 'Place an X under the face which describes the way you feel about the lesson today. For example, if you thought it was interesting, you would mark your answer like this . . . . (Illustrate by marking the attached form or by drawing similar faces on the chalkboard.' Read the captions above each face to show what they might be saying.) 'You will be asked three questions. Put an X under one of the three faces for each question. Be sure that you do not put an X under two faces for one question! Are there any questions before we begin?'

   "The first question is 'Was the lesson interesting to you?' Put an X under one of the faces for Question #1, Question #2 is 'Was the lesson easy to understand?' Put an X under one of the faces for Question #2. Question #3 is 'Was this lesson a good one for other teenagers like you to have?' Put an X under one of the faces for Question #3. That is all you have to do. Pass your papers to the front."

5. Be sure that the pupils begin with Lesson I-A and continue in sequence. If a pupil is absent he should omit that lesson he missed and mark on the proper day. It might be helpful to remind the pupils each day that if they were absent the day before or have been absent for

several days, they should not make any marks on those days.

6. Instructions should be repeated only as often as you deem necessary.

PUPIL EVALUATION FORM

Name_____ Teacher_____

Place an X under the face which describes how you feel about the lesson today. For example, if you thought it was interesting you would mark your answer like this:

It was not good	I don't know	It was good
_____	_____	_____

Your teacher will ask three questions about the lesson today. Make an X under one of the faces which might be saying, "It was not good," "I don't know," or "It was good," as each question is asked.

IA	1.	_____	_____	_____
	2.	_____	_____	_____
	3.	_____	_____	_____
IB	1.	_____	_____	_____
	2.	_____	_____	_____
	3.	_____	_____	_____
IC	1.	_____	_____	_____
	2.	_____	_____	_____
	3.	_____	_____	_____

APPENDIX B

SAMPLE LESSON PLANS AND GUIDELINES FOR TREATMENT GROUPS

PERCEPTUAL TRAINING FOR COMMUNITY LIVING: A PRE-VOCATIONAL UNIT FOR RETARDED YOUTH

Table of Contents

Week I

A. Introduction to Signals

B. Hand & Arm Signals

C. Hand & Arm Signals

D. Colors & Shapes of Signs

E. Signals & Role Play

Week II

A - E. Places & Things Sometimes Tell Us What to Do

Week III

A - E. Places: What To Do & What To Say

Week IV

A. Transactions: Several Kinds of Stores

B. Transactions: Where We Go for What We Need

C. Transactions: Entering, Specifying, Inquiring, Deciding

D. Transactions: Specifying, Trying, Fit, Appearance, Deciding

E. Transactions: Entering, Trying, Fit, Appearance, Decision Yes or No to Buy

Week V

A. Reading People. What Their Clothes Tell Us About People

B. Reading People. What Their Clothes Tell Us About People

C. Reading People. What Their Clothes Tell Us About People

D. Reading People. What Their Clothes Tell Us About People

E. Reading People. Knowing People by What They Do

Week VI

A. Living on Our Own

B. Finding a Place to Stay

C. Looking Clean and Neat

D. Living on Our Own: Some Problems

E. Living on Our Own: Review

Week VII

A. Jobs and What They Take: Money Management

B. Jobs and What They Take: Being on Time

C. Jobs and What They Take: Being Careful

D. Jobs and What They Take: Field Trip

E. Jobs and What They Take: Review

Week VIII

A. Listening & Following Directions

B. What It Takes to Get and Keep a Job

C. Getting the Picture of What's Going On

D. Getting Along with People: The Boss

E. Review

Week IX

A. People Signal How They Feel: Having a Good Time Because of Knowing How

B. People Signal How They Feel: Having a Good Time with Others

C. People Signal How They Feel: Getting Along with Others

D. What We Say Make a Difference in the Way People Feel

E. Getting Along with Others: Review

Week X

A - E. Review

Sample Lesson Format

VIII-D. Getting Along with People: The Boss

Objectives: To discuss, in relation to a range of social settings (from solemn to mirthfilled), differences in expected participant behaviors.

Materials: Slide projector
Set VIII-D 35 mm slides

Vocabulary:

Show off	Applaud
Remind	Encourage
Active	Cheer
Rough	
Sorrow	

/Teacher Explanation/

Today we are going to talk about the many different places people go. If we stayed at home (or in the cottage), all the time we would get tired of doing the same things over and over again, wouldn't we? But, we go to other places and when we are there we do other things. When we go to other places and when we are there we do other things. When we go to the cafeteria (or dining room), what are some of the things we do that we don't do at home (or in the cottage)? ( ) Yes, those are some different things we do.

What is a cafeteria for? (A place to eat) One thing we usually do in a cafeteria is carry out food and eat it. There are some other things we can do in a cafeteria. We can sit with our friends. We can talk. We can joke and laugh. What are some things we can't do or shouldn't do if we want to act like other grownups? /Teacher can hint or probe. Examples of what a child might do but not a grownup--running around, being noisy, being a show off, being messy with food, etc./

Let's think of some other places we go where we are supposed to do certain things. /Teacher can hint or probe. Examples: church, store, chapel, canteen, classroom, etc. Have pupils think of the major activity, some permissible side activities and some behaviors that are not appropriate./

(1) Some places are very serious places--/Slide: Meeting/ What are these people doing? /Teacher encourages pupils to reason it out from the cues that the people are sitting down and facing a common direction. They are sitting very stiffly./

They must be listening to or looking at a speaker or a serious program. What would they think of someone in the audience who began talking to a friend and making a noise so that people in back couldn't hear? ( )

What can we tell about the people from the way they are dressed? /Teacher hints if necessary--what can we tell about their clothes, etc.?/ They are all men--nicely dressed--not outdoor workers--business men.

(2) But not all programs are meant to be serious. /Slide: Fun movie/ What is happening here? /Teacher helps pupils figure it out from the cues./ They must be watching something very funny. Do you think it is all right for them to laugh and make noise? ( ) Yes, everything is for fun here and it adds to the fun when the audience laughs and applauds.

(3) Here is another picture. /Slide: Church/ What is happening here? /Teacher encourages pupils to figure it out and point out the cues to substantiate that the people must be in church--pews, clothing, etc./ They are in church--might be listening to a Sunday service. Church is usually a serious place where we go to hear about God. What do people do there? ( )

(4) /Slide: Sack race/ What are these people doing? /Teacher gets pupils' responses--they are tied in sacks and hopping in a race to see who wins./ This is a field day or a party of some kind, or just girls having fun. Would it be all right for people watching to laugh and clap and yell? (Yes, people are supposed to be having fun--and when there are teams racing against other teams, we except people to applaud and yell and cheer and encourage them.)

MEMORANDUM

To: Teachers of Experimental Unit

From: Gary M. Clark
291-1127

Subject: Guidelines for Teaching Experimental Units

Thank you again for your willingness to cooperate in this study by teaching an experimental class with the perceptual training unit for social behavior. This memorandum is designed to give you some common guidelines so that each of you will be similarly informed and have access to similar assistance.

Each of you now has the curriculum unit materials and the teacher guide. As this unit is still experimental, the objectives of this study are pointed toward further evaluation of the unit and its materials. One of the tests of its usefulness will be to determine whether a teacher can use this unit as a part of the total program with a minimum of effort, adjustment of schedule, and teacher preparation. For this reason no guidance or direction will be given to you unless it is requested. Your criticisms and comments on the daily lessons will be most helpful in the final revisions of the unit.

To insure the highest degree of conformity in procedures, the following points are provided:

(1) Please read the introduction to the unit in the teacher guide carefully.

(2) In the event that you are absent from school, please notify me and I will substitute for you during your absence for that period. This will help to have better continuity than might be expected if a substitute had to take over.

(3) For the field trips which are suggested, I will be available to assist in providing supervision. Please give me adequate time to plan for this.

(4) Please note the supplies which you will need which are not provided in the kit. (The list of items and lessons in which they are needed are on Page 2 of the

checklist of Items in the kit). If any of the items are not available to you, please let me know and I will assist in securing them for you.

(5) You will be provided with evaluation forms for yourselves and the pupils. The teacher evaluation form was designed to be an immediate reaction to each lesson. Do not feel that they must be typed or that the comments must be lengthy. The pupil evaluation forms will be simple questions which are read to them and will require no writing for them. It might be helpful to have one pupil assigned as "Assistant" to distribute the forms and help remind you that this needs to be done each day.

(6) To determine whether the pupils are getting the content of the weekly units, a brief test will be provided and you are asked to administer them by reading the items aloud and letting them answer by underlining Yes or No. These should be administered on Fridays or at the end of each weekly unit. Do not be concerned with make-up tests for absentees.

(7) The curriculum materials, tape recorders, and two of the slide projectors are borrowed or rented and are signed out to me. I would appreciate your looking after them for me as if they were your own.

Good luck and wishes for an exciting, profitable experience for you and your groups!

Gary M. Clark

MEMORANDUM

TO: Teachers of Control Groups

FROM: Project Director

SUBJECT: Guideline for Teaching Control Groups

Thank you again for cooperating in this study by teaching the control group for your school. Having a group to which the experimental group can be compared is very important to a study for several reasons. In this study the primary reasons for a control group in each school are (1) to determine whether the pupils in the experimental group are any different as a result of using a given curriculum unit than a comparable group which has not used it, and (2) to determine whether the differences, if any, in the two groups can be attributed to the effects of the unit rather than a "Hawthorne effect." You may have heard of the experiments in a Western Electric plant by Hawthorne in which it was found that production increased every time some change in the routine or environment was introduced regardless of the positive or negative aspects for the workers. The factory workers responded to the special attention and novel changes of the experiment by temporary increases in production. This phenomenon has been demonstrated with retarded children also as they tend to score higher on tests and behave more satisfactorily simply as a result of increased attention to them through an experiment even without receiving any special treatment or training.

In order to provide the control classes with enough attention and change in routine to make them feel a part of the experiment, the following guidelines are provided so that all three control classes will have similar approaches:

(1) No special curriculum content is recommended for this period. Each teacher is free to plan, organize, and teach anything he or she wishes. It is hoped that each will continue with whatever he had planned prior to this study and that the content will be what his pupils would ordinarily be exposed to.

(2) Please try to keep any knowledge of the objectives of the study from influencing your regular teaching methods and approach. If you normally integrate the teaching of social skills into every subject throughout the

school day, continue to proceed with this approach. If you have a special time or period for this, the group in your control class would be the appropriate group to receive it.

(3) To keep some continuity in making the control groups feel a part of the study the following weekly manipulations of the environment are requested (a more detailed explanation of these is attached.)

Week I - Change in membership of class.

Week II - Introduction of learning reinforcements.

Week III - Introduction of rest breaks.

Week IV - Use of audio-visual materials.

Week V - Introduction of individual conferences.

Week VI - Reinforcement techniques.

Week VII - Small group work.

Week VIII - Field trip.

Week IX - Outside speakers or guests.

Week X - Review and further use of reinforcements.

(4) In the event that you are absent from school for as many as three days of any week, please inform the substitute of the nature of the study and what should be emphasized that particular week.

(5) For the field trip, audio-visual aids, reinforcements, and outside speaker which are suggested, I will be available to provide assistance for each. Please give me adequate time to plan and arrange for them if you need such assistance.

Good luck and wishes for a profitable experience for you and your groups!

WEEKLY CHANGES IN CLASSROOM ENVIRONMENT OR ROUTINE

Week I. The first week will be one of the most radical changes in the environment as each pupil is assigned to a new group structure for this specific period of the day. Some of the pupils will even be confronted with a new or different authority figure in the teacher. The group should be aware by this point that they are a part of an experiment, even if they are not getting the same kind of curriculum content as the other group.

Week II. To provide motivation for an interest and cooperation for this group, the second week has as its emphasis the introduction of learning reinforcements. The pupils should have some type of positive reinforcement given to them for satisfactory performance in class activities, learning, and/or behavior. These can include money (1 cent to 5 cents), candy, chewing gum, or any other items that would have some appeal for the group. Funds for this will be provided. Three different occasions for earning rewards should be provided this week.

Week III. Rest breaks may help to break a period into separate learning periods. As attention span is often short, it may help for the pupils to know that they will have a chance to rest and talk for a few moments after they work hard for a specified time, i.e., 10 minutes, 15 minutes, etc. One break may be sufficient for certain kinds of activities while two or three brief "stretch" breaks may be appropriate for more concentrated activities.

Week IV. Use of audio-visual materials during this week should help to provide some new interest in the curriculum being taught. Plan ahead for this and I will assist you in securing some films, filmstrips, slides, etc. to fit in with your unit.

Week V. The personal attention of an individual conference should help both the pupil and teacher in mutual understanding. The pupils should be aware that everyone will have a conference

and that no one is being singled out. The conference can serve as an opportunity for getting to know the pupils better, discussing school progress, behavior, future plans for a job, or any topic which would be of interest to the pupils. These conferences can be brief and be spread over a week's period so that three or four can be seen each day while the others are doing work at their desks.

Week VI. This week can be a continuation of what was done during Week II.

Week VII. The emphasis for this week is the change in emphasis from individual work to small group work. This should provide opportunity for group cooperation in a common effort and expose them to problems in working together. Reinforcements could be used again here if small groups meet the goals set for them or if there is competition among groups.

Week VIII. The major innovation for this week is a field trip. This should coincide, if possible, with the unit in progress.

Week IX. The invitation of two outside resource persons for culminating your unit is the major change for this week. There should be some benefits from having guests come to the class to speak or perform and the group should be reminded that this is part of the experiment.

Week X. The final week will be one of review, evaluation and feed-back to the pupils as to how they have performed during the 10 weeks. Individual conferences and/or reinforcements could be used again.

To insure that the group is very aware that something different is going to happen each week as they study a certain topic, the teacher might begin each week by saying, "This week as a part of the experiment we are going to. . . ."

APPENDIX C

TEACHER PERSONNEL DATA

TEACHER PERSONNEL DATA

Teacher 1

Teacher 1 was born in 1918. She attended college at San Antonio Junior College, St. Mary's University, and Baylor University. She received her BA from Baylor University with a major in home economics and minor in education. She is not presently certified in special education but does hold a professional certificate (grades 1-12) and has special certificates in general science, biology, chemistry, and home economics. Her seven years of teaching prior to this school year have been in the regular grades at the secondary level.

Teacher 2

Teacher 2 was born in 1939. He received his BA from Belmont College and lacks eight semester hours completing his MA from George Peabody College for Teachers. His graduate work has been in special education and he holds a special education certificate (grades K-12). Five years of his teaching experience have been in core and social studies areas at the secondary level. The past two years he has taught a junior high school special education class for educable mentally retarded.

Teacher 3

Teacher 3 was born in 1944. She received her BA in psychology from Fisk University and her MA in special education from Colorado State College. She holds a certificate for special education (mental retardation). She had no teaching experience prior to the present school year.

Teacher 4

Teacher 4 was born in 1941. He received a BS from David Lipscomb College with a major in elementary education and a minor in psychology. He holds an elementary (grades 1-9) certificate. He has had one year of teaching experience with a junior high school class of educable mentally retarded.

Teacher 5

Teacher 5 was born in 1919. She received her BS and MA from George Peabody College for Teachers. Her undergraduate majors were English and home economics. Her graduate major was special education. She holds professional certificates in regular and special classes (grades K-12). She has had twelve and one-half years of teaching experience. Eight years of this teaching experience has been with the educable mentally retarded at the intermediate and junior high school level.

Teacher 6

Teacher 6 was born in 1943. She received her BS in home economics from Middle Tennessee State University. She holds a certificate in secondary vocational home economics (grades 7-12) and a temporary elementary certificate. She had one year of teaching experience prior to this school year. Her teaching duties were in high school home economics.

APPENDIX D

IDENTIFYING DATA AND SCORES ON ALL SUBJECTS

IDENTIFYING DATA AND SCORES OF EXPERIMENTAL SUBJECTS

Ss	Sex	Age	IQ	VSMS		FTOR		TSI	
				Pre	Post	Pre	Post	Pre	Post
EB	M	167	79	71.5	77.0	35.0	33.0	32.5	46.0
KG	F	175	77	86.0	85.0	31.0	37.0	68.5	69.5
SS	M	184	80	71.5	63.0	34.0	38.0	40.0	42.5
TB	M	178	75	79.0	82.5	34.0	41.0	64.0	88.0
JH	M	177	63	79.5	80.0	36.0	40.0	72.5	68.0
DS	F	164	64	78.5	80.0	35.0	23.0	40.0	45.5
DSti	F	184	66	83.0	77.5	22.0	20.0	24.0	35.0
RM	M	179	74	79.5	84.0	35.0	34.0	71.5	73.0
Σ		1408	578	628.5	629.0	262.0	266.0	413.0	467.5
$\bar{X}$		176	72.3	78.6	78.6	32.7	33.2	51.6	58.4
DC	M	162	59	77.0	80.0	29.0	36.0	38.5	53.5
PJ	F	175	65	74.0	77.0	27.0	37.0	33.0	34.0
RL	M	170	64	77.5	78.0	36.0	35.0	25.5	41.0
CO	F	165	75	85.0	87.5	37.0	40.0	63.5	77.0
RV	M	188	70	79.5	84.0	35.0	37.0	60.5	61.5
AC	M	189	63	84.0	85.0	38.0	38.0	65.0	61.5
PC	M	173	79	82.5	83.0	31.0	36.0	47.5	58.0
JF	M	190	62	78.0	79.0	21.0	24.0	25.0	47.5
WG	M	174	75	82.5	81.0	29.0	34.0	66.5	78.0
GH	M	184	80	85.0	82.5	33.0	39.0	49.5	58.5
Σ		1770	692	805.0	817.0	316.0	356.0	474.5	570.5
$\bar{X}$		177	69.2	80.5	81.7	31.6	35.6	47.4	57.0

IDENTIFYING DATA AND SCORES OF EXPERIMENTAL SUBJECTS (continued)

Ss	Sex	Age	IQ	VSMS		FTOR		TSI	
				Pre	Post	Pre	Post	Pre	Post
BD	F	178	67	75.0	66.5	31.0	29.0	37.0	52.5
EE	M	162	66	80.0	90.5	36.0	39.0	59.5	78.5
JH	M	159	61	80.0	84.0	28.0	31.0	43.0	53.0
RH	F	181	63	88.0	87.5	32.0	35.0	83.0	75.5
JMc	F	177	59	79.5	78.0	30.0	19.0	25.5	28.0
WD	M	176	66	79.5	84.5	27.0	35.0	98.0	89.5
NH	M	188	66	88.0	81.0	29.0	35.0	43.0	57.0
AH	M	177	63	84.0	75.5	31.0	34.0	43.5	48.0
BP	M	185	64	85.0	84.0	30.0	36.0	74.0	93.0
WT	M	187	70	85.5	82.0	35.0	37.0	59.5	56.0
Σ		1770	645	824.5	813.5	309.0	330.0	566.0	631.0
$\bar{X}$		177	64.5	82.4	81.3	30.9	33.0	56.6	63.1
Σ_T		4948.0	1915.0	2258.0	2259.5	887.0	952.0	1453.5	1669.0
$\bar{X}_T$		176.7	68.4	80.6	80.7	31.7	34.0	51.9	59.6

IDENTIFYING DATA AND SCORES OF EXPERIMENTAL SUBJECTS (continued)

Ss	TSI (Error) Pre	TSI (Error) Post	BSRI Pre	BSRI Post	BRS-O Pre	BRS-O Post	BRS-T Pre	BRS-T Post	Weekly Unit Test
EB	9.0	7.0	37.0	22.0	22.0	22.0	8.0	5.0	-1.02
KG	11.0	8.0	33.0	35.0	38.0	36.0	16.0	14.0	.33
SS	11.0	8.0	32.0	31.0	31.0	24.0	25.0	23.0	.49
TB	5.0	6.0	39.0	32.0	42.0	30.0	17.0	14.0	.38
JH	7.0	5.0	25.0	45.0	39.0	41.0	21.0	18.0	.26
DS	7.0	6.0	33.0	38.0	35.0	39.0	19.0	17.0	- .33
DSti	15.0	9.0	34.0	38.0	24.0	32.0	12.0	15.0	- .68
RM	6.0	6.0	29.0	42.0	33.0	28.0	16.0	15.0	-1.02
Σ	71.0	55.0	262.0	283.0	264.0	252.0	134.0	121.0	-1.59
$\bar{X}$	8.9	6.9	32.7	35.4	33.0	31.5	16.7	15.1	- .20
DC	22.0	13.0	32.0	33.0	40.0	29.0	13.0	19.0	.24
PJ	18.0	6.0	34.0	34.0	29.0	38.0	17.0	15.0	- .04
RL	12.0	7.0	39.0	31.0	27.0	30.0	19.0	14.0	.32
CO	10.0	7.0	36.0	37.0	41.0	45.0	8.0	24.0	.23
RV	8.0	6.0	34.0	34.0	34.0	25.0	19.0	22.0	.27
AC	15.0	12.0	32.0	23.0	36.0	40.0	11.0	13.0	.41
PC	7.0	6.0	28.0	33.0	31.0	35.0	20.0	20.0	.26
JF	11.0	8.0	34.0	33.0	32.0	28.0	11.0	13.0	- .79
WG	5.0	6.0	41.0	34.0	36.0	39.0	9.0	11.0	- .21
GH	7.0	8.0	33.0	31.0	31.0	27.0	20.0	16.0	.84
Σ	115.0	79.0	343.0	323.0	337.0	336.0	147.0	167.0	1.53
$\bar{X}$	11.5	7.9	34.3	32.3	33.7	33.6	14.7	16.7	.15

IDENTIFYING DATA AND SCORES OF EXPERIMENTAL SUBJECTS (continued)

Ss	TSI (Error)		BSRI		BRS-O		BRS-T		Weekly Unit Test
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	
BD	17.0	16.0	29.0	33.0	34.0	38.0	15.0	17.0	
EE	9.0	8.0	42.0	34.0	34.0	27.0	24.0	18.0	
JH	20.0	11.0	28.0	35.0	28.0	34.0	17.0	17.0	
RH	15.0	8.0	31.0	36.0	33.0	36.0	19.0	19.0	
JMc	9.0	4.0	32.0	37.0	30.0	27.0	7.0	8.0	
WD	12.0	6.0	40.0	41.0	32.0	36.0	18.0	16.0	
NH	8.0	8.0	34.0	34.0	31.0	24.0	13.0	15.0	
AH	16.0	8.0	37.0	41.0	36.0	31.0	12.0	16.0	
BP	11.0	10.0	26.0	41.0	20.0	28.0	11.0	10.0	
WT	9.0	8.0	43.0	45.0	22.0	36.0	16.0	15.0	
Σ	126.0	87.0	342.0	377.0	300.0	317.0	152.0	151.0	
$\bar{X}$	12.6	8.7	34.2	37.7	30.0	31.7	15.2	15.1	
Σ_T	312.0	221.0	947.0	983.0	901.0	905.0	433.0	439.0	- .06
$\bar{X}_T$	11.1	7.9	33.8	35.1	32.2	32.3	15.5	15.7	.00

IDENTIFYING DATA AND SCORES OF PLACEBO SUBJECTS

Ss	Sex	Age	IQ	VSMS		FTOR		TSI	
				Pre	Post	Pre	Post	Pre	Post
LB	M	170	76	80.5	79.5	31.0	37.0	41.0	46.0
SH	M	192	63	80.0	84.0	35.0	36.0	47.5	47.5
PM	F	174	64	86.5	85.0	29.0	30.0	54.0	72.0
JW	F	177	77	87.0	88.5	34.0	37.0	63.5	61.0
GD	F	170	61	79.0	73.5	28.0	32.0	58.5	56.5
BK	F	157	74	87.0	87.0	36.0	38.0	72.0	74.0
DS	F	184	76	81.5	82.5	33.0	36.0	58.0	69.5
MS	F	176	70	84.0	83.0	35.0	37.0	74.5	79.5
Σ		1400.0	561	665.5	663.0	261.0	283.0	469.0	506.0
$\bar{X}$		175.0	70.1	83.2	82.9	32.6	35.4	58.6	63.2
RB	M	188	56	72.0	77.0	28.0	32.0	38.5	43.0
WB	M	173	79	84.0	85.0	39.0	38.0	78.5	88.5
JH	F	184	73	77.0	78.0	36.0	35.0	59.0	60.0
TP	M	190	75	72.0	69.0	27.0	28.0	21.5	23.5
SC	M	188	57	79.0	81.5	21.0	23.0	52.5	49.0
JJ	M	187	68	85.0	82.5	37.0	38.0	79.0	92.0
AP	M	190	65	83.0	81.5	34.0	41.0	89.0	95.0
VP	M	176	80	82.0	83.5	38.0	38.0	68.5	92.5
DT	M	176	77	86.0	87.0	35.0	40.0	57.0	54.0
BW	M	179	72	80.0	75.0	35.0	37.0	64.5	78.0
Σ		1831.0	702	800.0	800.0	330.0	350.0	608.0	675.5
$\bar{X}$		183.1	70.2	80.0	80.0	33.0	35.0	60.8	67.5

IDENTIFYING DATA AND SCORES OF PLACEBO SUBJECTS (continued)

Ss	Sex	Age	IQ	VSMS		FTOR		TSI	
				Pre	Post	Pre	Post	Pre	Post
MB	F	162	73	79.0	82.0	33.0	37.0	38.5	52.0
LB	F	161	56	75.5	89.0	24.0	19.0	17.5	18.5
JP	F	167	71	81.5	82.5	30.0	31.0	35.5	51.0
CS	F	178	62	87.0	80.0	30.0	34.0	40.0	40.0
WB	F	179	53	79.5	75.5	21.0	23.0	37.5	34.5
RD	M	181	54	69.0	73.5	23.0	29.0	24.0	37.0
LH	M	181	60	82.0	84.5	31.0	33.0	80.0	77.5
LJ	M	188	67	82.5	82.5	38.0	39.0	89.0	77.5
CJ	F	183	66	72.0	75.0	39.0	35.0	56.5	58.0
JMc	M	178	66	81.5	81.0	32.0	30.0	49.5	60.0
Σ		1758.0	628	790.5	805.5	301.0	310.0	468.0	506.0
$\bar{X}$		175.8	62.8	79.0	80.5	30.1	31.0	46.8	50.6
Σ_T		4989.0	1891.0	2256.0	2268.5	891.0	943.0	1545.0	1687.5
$\bar{X}_T$		178.2	67.5	80.6	81.0	31.8	33.7	55.2	60.3

IDENTIFYING DATA AND SCORES OF PLACEBO SUBJECTS (continued)

Ss	TSI (Error)		BSRI		BRS-O		BRS-T	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
LB	8.0	7.0	20.0	27.0	33.0	27.0	17.0	19.0
SH	9.0	11.0	31.0	36.0	22.0	22.0	21.0	20.0
PM	13.0	9.0	37.0	38.0	39.0	36.0	24.0	19.0
JW	5.0	5.0	40.0	37.0	44.0	40.0	25.0	25.0
GD	13.0	9.0	35.0	39.0	28.0	32.0	11.0	13.0
BK	11.0	5.0	35.0	33.0	34.0	38.0	18.0	19.0
DS	20.0	17.0	25.0	39.0	33.0	38.0	21.0	17.0
MS	7.0	2.0	43.0	46.0	38.0	41.0	19.0	17.0
Σ	86.0	65.0	266.0	295.0	271.0	274.0	156.0	149.0
$\bar{X}$	10.7	8.1	33.2	36.9	33.9	34.2	19.5	18.6
RB	11.0	11.0	32.0	28.0	31.0	30.0	12.0	11.0
WB	9.0	2.0	44.0	40.0	31.0	31.0	22.0	25.0
JH	25.0	11.0	33.0	33.0	37.0	39.0	22.0	24.0
TP	3.0	14.0	41.0	41.0	24.0	26.0	12.0	14.0
SC	7.0	3.0	32.0	26.0	24.0	31.0	14.0	14.0
JJ	9.0	0.0	32.0	32.0	36.0	34.0	16.0	16.0
AP	3.0	2.0	42.0	39.0	28.0	32.0	17.0	13.0
VP	18.0	7.0	34.0	41.0	42.0	39.0	13.0	18.0
DT	12.0	2.0	38.0	37.0	42.0	36.0	14.0	16.0
BW	4.0	1.0	30.0	34.0	23.0	30.0	14.0	13.0
Σ	101.0	53.0	358.0	351.0	318.0	328.0	156.0	164.0
$\bar{X}$	10.1	5.3	35.8	35.1	31.8	32.8	15.6	16.4

IDENTIFYING DATA AND SCORES OF PLACEBO SUBJECTS (continued)

Ss	TSI (Error)		BSRI		BRS-O		BRS-T	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
MB	9.0	5.0	35.0	39.0	30.0	33.0	17.0	13.0
LB	31.0	20.0	28.0	29.0	24.0	22.0	15.0	13.0
JP	14.0	11.0	35.0	35.0	23.0	31.0	18.0	24.0
CS	7.0	10.0	34.0	36.0	28.0	38.0	13.0	12.0
WB	18.0	16.0	28.0	31.0	28.0	37.0	15.0	13.0
RD	9.0	10.0	34.0	37.0	19.0	32.0	11.0	14.0
LH	6.0	5.0	36.0	37.0	39.0	30.0	17.0	18.0
LJ	12.0	4.0	39.0	40.0	33.0	35.0	17.0	20.0
CJ	16.0	13.0	22.0	16.0	36.0	36.0	20.0	22.0
JMc	9.0	4.0	38.0	42.0	31.0	36.0	12.0	10.0
Σ	131.0	98.0	329.0	342.0	291.0	330.0	155.0	159.0
$\bar{X}$	13.1	9.8	32.9	34.2	29.1	33.0	15.5	15.9
Σ_T	318.0	216.0	953.0	988.0	880.0	932.0	467.0	472.0
$\bar{X}_T$	11.3	7.7	34.0	35.3	31.4	33.3	16.7	16.8

STANDARD SCORES FOR WEEKLY UNIT TESTS ON EXPERIMENTAL UNIT*

Ss	Week 1	2	3	4	5	6	7	8	9	$\bar{X}$
EB	0.0	.26	-1.90	-2.14	-2.14	- .21	Ab.	Ab.	Ab.	-1.02
KG	1.18	1.14	.10	.15	.53	- .21	.42	- .06	- .26	.33
SS	1.18	.26	.10	.15	.53	.84	.42	.59	.39	.49
TB	-1.18	2.02	1.10	.92	1.43	Ab.	- .42	- .06	- .90	.38
JH	1.18	1.14	1.10	- .61	.53	- .21	- .42	- .06	- .26	.26
DS	0.0	- .61	.10	-1.37	.53	- .21	- .42	- .06	- .90	- .33
DS	0.0	- .61	.10	-1.37	-1.25	-2.31	- .42	.59	- .90	- .68
RM	0.0	1.14	-1.90	.15	Ab.	-1.26	-2.12	-3.30	- .90	-1.02
DC	0.0	-1.49	- .90	.92	.53	.84	1.27	.59	.39	.24
PJ	-1.18	.26	1.10	.15	-1.25	.84	-1.27	Ab.	1.03	- .04
RL	Ab.	-1.49	Ab.	.61	-1.25	.84	1.27	.59	1.68	.32
CO	-1.18	.26	.10	.92	.53	- .21	.42	Ab.	1.03	.23
RV	1.18	- .61	1.10	.15	.53	- .21	1.27	.59	-1.55	.27
AC	Ab.	- .61	Ab.	.92	.53	- .21	1.27	.59	Ab.	.41
PC	-1.18	.26	.10	.92	- .36	1.89	.42	- .06	.39	.26
JF	-1.18	-1.49	.10	-1.37	- .36	-1.26	1.27	- .72	.39	- .79
WG	Ab.	- .61	- .90	.92	- .36	- .21	.42	- .06	- .90	- .21
GH	1.18	.26	1.10	.92	1.43	.84	- .42	.59	1.68	.84

*Based upon two experimental unit classes only.

APPENDIX E

EVALUATION DATA BY TEACHERS OF SOCIAL PERCEPTUAL TRAINING UNIT

AVERAGE DAILY RATINGS BY TEACHERS USING EXPERIMENTAL CURRICULUM

Daily Unit	Average Rating
IA	4.4
B	4.6
C	3.8
D	3.6
E	2.3
IIA	4.5
B	4.3
C	4.0
D	4.0
E	4.6
IIIA	4.3
B	4.7
C	4.7
D	4.7
E	4.7
IVA	4.1
B	3.4
C	3.7
D	3.7
E	4.1
VA	3.9
B	4.4
C	3.7
D	4.1
E	4.4
VIA	4.8
B	4.8
C	4.3
D	4.0
E	4.4
VIIA	4.3
B	4.2
C	3.5
D	3.9
E	4.3
VIIIA	---
B	4.1
C	4.1
D	3.8
E	---
IXA	3.4
B	4.0
C	3.7
D	4.3
E	4.0
XA	4.3
B	4.1
C	4.1
D	4.4
E	4.3

SAMPLE TEACHER EVALUATIONS OF SOCIAL PERCEPTION TRAINING UNIT

Lesson	Teacher	Comment
IC	T1	Clemency is a hard word for these children. Perhaps applauding is a big word for them, though it may not be. In slide #11 (IC) the children noticed that the printing on the slide is not worded exactly as the teacher read it from the book. The meaning is the same, but they should be worded alike, it seems. Slide #14 of the missile is not very clear as to the gesture. Slide #6 (IC) - The book says he is signaling for a stop. If he is, it is surely not clear. To the teacher and class it looked as if his hand is straight out and signaling a left turn rather than a stop.
	T2	Slide #14, the missile, missed its point. The lights are a problem when one teaches with slides. The teacher may choose a student to operate the slide projector and station himself in a rear and side area of the room in order to see the slides, address the students and notice attention. It does not hurt to say, "Now, show us slide number 2," to the student. Every class has one more advanced mentally but hyperactive child who would enjoy operating any machine.
	T3	The students had some difficulty in understanding the humor in the cartoons. It may be wise to revise according to the interest level of the student involved.
IE	T1	Typographical error--2 lines below little chart drawing--"what do" rather than "what to." I did not think this lesson was a success. Probably several factors were involved. For one thing, I think many of the children felt that it was a little juvenile. In our room, so much furniture moving was involved that it led to general confusion. . . .

	T2	I could not do it in "act out" form; we just did it straight. This lesson does point out the need for drama in special education as well as other areas. The objectives of this lesson are good ones, but the approach to it fails. "Let's pretend" is not right for kids this old. If we are to have a stage manager, then we need a play. We need a simple play with a simple story; simple lines which can be read rather than memorized. Even if it were pure corn it would do the trick.
	T3	The lesson went well, but the teacher felt there was too much activity involved in this one lesson. The role playing was enough alone, but changing from the role playing back to the slides caused confusion in the classroom.
VE	T1	Had to finish so much from previous day that got to do only a very small part of this lesson. Hope to have time to go back and finish. One boy who had been marking his sheet that he did not like the lessons marked yesterday's and today's that he did like them. Think the reason for this was the reward chart and the pennies.
	T2	I don't know why, but this lesson seemed to be just right today. The kids liked it--I liked it. Maybe it's Friday. A reward of food might be a suggestion once to take the place of nickels one day. It would be a change.
	T3	No comment except--very good lesson.
VIIB	T1	Helpful lesson. Pupils seemed to understand and profit by it. Learned some useful words--punctual, reliable, dependable, etc. Had very little time to practice telephoning. No time for role playing.
	T2	Teacher explanation on first page might be acted out rather than just said; the kids have heard it before. Most of these boys do

not shave at all. The lesson could include the many things one can do the night before in getting up.

I have trouble getting them to stay on the subject during role-playing. The class decided that Fred's boss would cuss him out for being late with so little an excuse. We got into Fred's reactions to being cussed out by the boss. After all not all bosses are good guys anyway.

T3 The students responded very well to this lesson. Much was accomplished. No criticism.

APPENDIX F

ANALYSIS OF VARIANCE SUMMARY TABLES

FOR ADJUSTED SCORES

Table 11

Analysis of Variance of Scores on the Vineland Social Maturity Scale After Adjustment for Age, I.Q., and Sex

Source	df	Sum of Squares	Mean Square	F-ratio	$F_{.025}$
Between Subjects					
Treatment	1	1.51089	1.51089	.0381	5.33
Subjects Within Treatment (Error)	54	2140.4447	39.63786		
Within Subjects					
Pre-Post	1	1.74999	1.74999	.1931	5.33
Pre-Post X Treatment	1	1.08035	1.08035	.1192	5.33
Subjects Within Treatment X Pre-Post (Error)	54	489.41918	39.63786		

Table 12

Analysis of Variance of Scores on the Fudell Test of Occupational Readiness After Adjustment for Age, I.Q., and Sex

Source	df	Sum of Squares	Mean Square	F-ratio	$F_{.025}$
Between Subjects					
Treatment	1	9.9950	9.9950	.3438	5.33
Subject Within Treatment (Error)	54	1569.7424	29.0693		
Within Subjects					
Pre-Post	1	122.2231	122.2231	14.9232*	5.33
Pre-Post X Treatment	1	2.0089	2.0089	.2453	5.33
Subjects Within Treatment X Pre-Post (Error)	54	442.2675	8.1901		

*Significant at the .005 level.

Table 13

Analysis of Variance of Scores on the Test of Social Inference After Adjustment for Age, I.Q., and Sex

Source	df	Sum of Squares	Mean Square	F-ratio	$F_{.025}$
Between Subjects					
Treatment	1	313.2229	313.2229	.5121	5.33
Subjects Within Treatment (Error)	54	33025.3790	611.5811		
Within Subjects					
Pre-Post	1	1144.3212	1144.3212	31.2467*	5.33
Pre-Post X Treatment	1	47.5803	47.5803	1.2992	5.33
Subjects Within Treatment X Pre-Post (Error)	54	1977.5913			

*Significant at the .005 level.

Table 14

Analysis of Variance of Scores on the Error Score of the Test of Social Inference After Adjustment for Age, I.Q., and Sex

Source	df	Sum of Squares	Mean Square	F-ratio	$F_{.025}$
Between Subjects					
Treatment	1	9.1130	9.1130	.3023	5.33
Subjects Within Treatment (Error)	54	1627.5038	30.1389		
Within Subjects					
Pre-Post	1	332.5803	332.5803	35.9302*	5.33
Pre-Post X Treatment	1	1.0803	1.0803	.1167	5.33
Subjects Within Treatment X Pre-Post (Error)	54	499.8388	9.2563		

*Significant at the .005 level.

Table 15

Analysis of Variance of Scores on the Bown Self-Report Inventory

After Adjustment for Age, I.Q., and Sex

Source	df	Sum of Squares	Mean Square	F-ratio	$F_{.025}$
Between Subjects					
Treatment	1	4.5763	4.5763	.1099	5.33
Subjects Within Treatment (Error)	54	2248.4373	41.6377		
Within Subjects					
Pre-Post	1	45.0089	45.0089	2.4366	5.33
Pre-Post X Treatment	1	.0089	.0089	.0005	5.33
Subjects Within Treatment X Pre-Post (Error)	54	997.4814	18.4719		

Table 16

Analysis of Variance of Rating Scores on the Outside Observer Behavior Rating After Adjustment for Age, I.Q., and Sex

Source	df	Sum of Squares	Mean Square	F-ratio	$F_{.025}$
Between Subjects					
Treatment	1	2.1014	2.1014	.0478	5.33
Subjects Within Treatment (Error)	54	2375.8921	43.9980		
Within Subjects					
Pre-Post	1	27.9999	27.9999	1.5959	5.33
Pre-Post X Treatment	1	20.5714	20.5714	1.1725	5.33
Subjects Within Treatment X Pre-Post (Error)	54	947.4279	17.5450		

Table 17

Analysis of Variance of Rating Scores on the Teacher Behavior Rating After Adjustment for Age, I.Q., and Sex

Source	df	Sum of Squares	Mean Square	F-ratio	$F_{.025}$
Between Subjects					
Treatment	1	32.2184	32.2184	1.1775	5.33
Subjects Within Treatment (Error)	54	1477.4932	27.3610		
Within Subjects					
Pre-Post	1	1.0803	1.0803	.1719	5.33
Pre-Post	1	.0089	.0089	.0014	5.33
Subjects Within Treatment X Pre-Post (Error)	54	339.4104	6.2854		

APPENDIX G

ANALYSIS OF COVARIANCE SUMMARY TABLES

Table 18

Analysis of Covariance of Sex Effects on the Vineland Social Maturity Scale After Scores Were Adjusted for Age and I.Q.

Source	df	Sum of Squares	Mean Square	F-ratio	$F_{.025}$
Adjusted Sex	1	60.4368	60.4368	3.5438	5.41
Adjusted Sex Interaction	5	21.8925	4.3780	.2567	2.89
"Error"	42	716.2848	17.0544		

Table 19

Analysis of Covariance of Sex Effects on the Fudell Test of Occupational Readiness After Scores Were Adjusted for Age and I.Q.

Source	df	Sum of Squares	Mean Square	F-ratio	$F_{.025}$
Adjusted Sex	1	215.4798	215.4798	17.5578*	5.41
Adjusted Sex Interaction	5	129.9731	25.9946	2.1181	2.89
"Error"	42	515.4450	12.2725		

*Significant at .005 level.

Table 20

Analysis of Covariance of Sex Effects on the Test of Social Inference After Scores Were Adjusted for Age and I.Q.

Source	df	Sum of Squares	Mean Square	F-ratio	$F_{.025}$
Adjusted Sex	1	202.9878	202.9878	2.8118	5.41
Adjusted Sex Interaction	5	100.7934	20.1587	.2792	2.89
"Error"	42	3032.0010	72.1905		

Table 21

Analysis of Covariance of Sex Effects on the Test of Social Inference Error Scores After Scores Were Adjusted for Age and I.Q.

Source	df	Sum of Squares	Mean Square	F-ratio	$F_{.025}$
Adjusted Sex	1	66.7362	66.7362	7.2424*	5.41
Adjusted Sex Interaction	5	66.4809	13.2962	1.4429	2.89
"Error"	42	387.0174	9.2147		

*Significant

Table 22

Analysis of Covariance of Sex Effects on the Bown Self-Report Inventory After Scores Were Adjusted for Age and I.Q.

Source	df	Sum of Squares	Mean Square	F-ratio	$F_{.025}$
Adjusted Sex	1	124.1280	124.1280	4.3536	5.41
Adjusted Sex Interaction	5	124.7242	24.9448	.8749	2.89
"Error"	42	1197.4704	28.5112		

Table 23

Analysis of Covariance of Sex Effects on the Behavior Rating By Outside Observers After Ratings Were Adjusted for Age and I.Q.

Source	df	Sum of Squares	Mean Square	F-ratio	$F_{.025}$
Adjusted Sex	1	390.2550	390.2550	19.2836*	5.41
Adjusted Sex Interaction	5	147.2485	29.4497	1.4552	2.89
"Error"	42	849.9834	20.2377		

*Significant at the .005 level.

Table 24

Analysis of Covariance of Sex Effects on the Behavior Rating by Teachers After Ratings Were Adjusted for Age and I.Q.

Source	df	Sum of Squares	Mean Square	F-ratio	$F_{.025}$
Adjusted Sex	1	68.9082	68.9082	6.8854*	5.41
Adjusted Sex Interaction	5	54.9839	10.9968	1.0988	2.89
"Error"	42	420.3318	10.0079		

*Significant

CFC

NOV 1 1967